REESE LIBRARY
OF THE
UNIVERSITY OF CALIFORNIA.
Received FEB 19 1894 , 189 .
Accessions No. 54502 . Class No. .

Prehistoric America.

REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA.

The Mound Builders.

Animal Effigies.

Myths and Symbols.

The Cliff Dwellers.

Archæological Relics.

REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA.

THE ANCIENT EARTH-WORKS AT MARIETTA, OHIO.

THE

MOUND BUILDERS:

THEIR

WORKS AND RELICS.

BY

REV. STEPHEN D. PEET, PH. D.,

Member of Am. Antiquarian Society; Am. Oriental Society; Fellow of Am. Association Ad. of Sciences; Member of Victoria Institute, also of Societe de Ethnographie; Cor. Member of Numismatic Society of New York, Historical Societies of Virginia, Wisconsin, Rhode Island, Davenport Academy of Science. Also Editor of American Antiquarian and Oriental Journal.

VOL. I.

ILLUSTRATED.

REESE LIBRARY OF THE UNIVERSITY CALIFORNIA.

CHICAGO:

OFFICE OF THE AMERICAN ANTIQUARIAN.

1892.

E73
.P3

Copyright by Stephen D. Peet.
57502

TO THE OFFICERS

OF THE

SMITHSONIAN INSTITUTION,

IN ACKNOWLEDGMENT OF THE MANY FAVORS AND KIND WORDS

OF ENCOURAGEMENT RECEIVED,

THIS VOLUME IS RESPECTFULLY DEDICATED

BY THE

AUTHOR.

REESE LIBRARY
OF THE
UNIVERSITY
CALIFORNIA.

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA.

INTRODUCTION.

THE four hundredth anniversary of the discovery of America will make a work on Prehistoric America very opportune. The author has spent twelve or fourteen years in preparing such a work, and now takes pleasure in presenting it to the public.

During this time there have been many discoveries; consequently many changes of thought. These discoveries and changes have had regard first to the Mound-builders' problem.

Some forty years ago it was held that the Mississippi valley must have been settled by a civilized people who had migrated from some historic country. Silver sword scabbards, iron knives, Hebrew inscriptions, triune vases, and other curious relics, were dwelt upon as proving this. The Mormon delusion grew out of an erroneous theory as to the "lost tribes."

Latterly the opinion has gone to the other extreme. The Mound-builders were savages, and differed from the modern Indians only in that they used stone and pottery instead of iron and tin for their weapons and utensils. This opinion, however, is as far out of the way as the previous one. This people inhabited the Mississippi valley during the same time that the Cliff-dwellers and Pueblos did the great plateaux, and the civilized races did the central provinces, and constituted a cultus which differed essentially from any other now known to history. This is the position which the author has sought to establish in the first volume of the series. By taking this as the true position, we work both ways, carry the Mound-building period back into antiquity and bring it down near to historic time. We may

ascribe a longer period of occupation to the people and at the same time make the prehistoric condition more important and marked. The cultus of the earlier races is magnified, but the differences between them and the invading hunter tribes is increased.

Animal Totemism has been a subject of much inquiry during the past few years. It is a system which has prevailed among the uncivilized races everywhere. It also existed extensively among the aboriginal races. America is the field in which it is seen in all its variety and power The book on Emblematic Mounds illustrates this. The totems of a tribe of hunters were wrought into earth shapes and constitute striking features of the landscape. They perpetuate the divinities of the people and embody their superstitions. Animal worship is the key to the interpretation of these effigies.

The myths and symbols of the prehistoric races are proving very interesting and rich. Some of these show striking resemblances to the myths which are so well known as belonging to the historic countries, and give increasing evidence of pre-Columbian contact with other continents. It is but a very few years since the autochthonous theory was adopted, but discoveries have already thrown doubt on this theory, and now the burden of proof rests upon the authors of it, though the law of parallel development is acknowledged by all. There are very strange resemblances between the symbols in this country and those found in the far East. The work on symbolism will bring out these points, and will be valuable on this account.

The Cliff-dwellers are a mysterious people. By some they are classed with the Cave-dwellers of Europe, but they were much more advanced. They have developed a style of architecture peculiar to themselves. They were probably the survivors of the Pueblos, but were preceded by a race entirely different. The relics,

structures and other tokens show that there were three classes of people who inhabited the great plateau and made their abode amid the mountains and deep canons of the "far West"—the wild Indians, the Cliff-dwellers and an unknown race.

A comparison between the architecture of different parts of the continent is drawn in the fourth volume of the series. The Indians of the North, the Mound-builders of the Mississippi valley, and of the civilized races are described in connection with the structures of the Cliff-dwellers and the Pueblos, as they all represent different styles of architecture. That there was an American style of architecture is the position taken by the author of this work, though it is uncertain whether its development was entirely separate from contact with other nations. The date of civilization in Mexico has been traced back to the thirteenth century, and in Central America to the sixth century. Some would place the beginning of the Maya civilization before the Christian era. The contrast between the architecture of the earlier Mayas and the later or Aztec races will be also brought out by this volume.

As to the age of man in America, the author at present takes no definite position. The progress of discovery has seemed to favor a very considerable antiquity, but as doubt has been thrown upon all such tokens as the Calaveras skull and the Nampa image, and the relics from the gravel beds have been pronounced by various authorities as lacking many of the qualities of paleolithic relics, the subject has been left undecided, with the expectation that future discoveries will furnish more if not better evidence.

It will be appropriate to say that portions of the volumes mentioned above have already been published in The American Antiquarian, and the points referred to have been subjected to discussion among the archæolo-

gists. Other portions will appear in that journal, and will be published in book form as rapidly as circumstances will permit.

The author takes pleasure in acknowledging assistance from different sources in the preparation of the first volume. These sources are as follows: The work on Ancient Monuments, by Squier and Davis; Antiquities of Tennessee, by Gen. G. P. Thurston, Antiquities of Southern Indians, by Col. C. C. Jones, Jr.; the Aboriginal Races of Tennessee, by Dr. Joseph Jones; North Americans of Antiquity, by Rev. J. T. Short; Fort Ancient, by Warren K. Moorehead; Mound Builders, by Rev. J. P. MacLean; Vanished Races, by A. C. Conant; History of the Cherokees, by Dr. Cyrus Thomas; Various numbers of Smithsonian Reports; Annual Reports of Ethnological Bureau; The Davenport Academy of Science; Peabody Museum; The American Association; Geological Survey of Indiana; The Natural History Society of Cincinnati; The Canadian Institute of Toronto; The American Naturalist and the American Antiquarian. Many of the cuts in this volume have been taken from the plates found in Ancient Monuments, which have been reduced by "process"; others from the volume by C. C. Jones, Jr. Blocks have also been loaned by The Natural History Society of Cincinnati, The Davenport Academy of Science, Mr. Boyle of the Canadian Institute, Hon. Bela B. Hubbard and S. H. Binkley. Electrotypes have been furnished by the Smithsonian Institute, the Ethnological Bureau, Mr. A. E. Douglas, Mr. Robert Clarke, Gen. Gates P. Thurston. For all of these favors the author wishes to express his sincere thanks.

FREESE LIBRARY OF THE UNIVERSITY CALIFORNIA.

TABLE OF CONTENTS.

CHAPTER I.

THE MYSTERIOUS RACES.

Paleolithic Man—Nampa Image—The Cave-dwellers in Europe and in America—The People who Left the Shell Heaps—Man and the Mastodon—Salt Mines and Cypress Rafts.

CHAPTER II.

THE MOUND-BUILDERS AND THEIR WORKS.

The Mound-builders' Habitat in the Mississippi Valley—Districts Divided according to Geographical Lines—Different Classes—Effigies in Wissin—Lookout Mounds and Tumuli in the Prairie Region—Military Works on the Great Lakes—Sacred Enclosures in Ohio—Bee Hive Cists East of the Appalachian Mountains—Stone Graves on the Cumberland—Lodge Circles among the Cypress Swamps—Pyramids in the Gulf States.

CHAPTER III.

THE MOUND-BUILDERS AND THE MASTODON.

The Naming of the Periods—The Neolithic Age—Date of the Mound-builders—Contemporaneous with the Mastodon—Elephant Pipes and the Davenport Tablet.

CHAPTER IV.

THE MOUND-BUILDERS AND THE BUFFALO.

The Appearance of the Buffalo—The Succession of Races—Hopewell Mound—Antiquity of the Earth-works—Contents of the Mounds—Few Buffalo Pipes—Burials at Different Depths.

CHAPTER V.

BURIAL MOUNDS OF THE DIFFERENT DISTRICTS.

Districts occupied by Different Classes in the Northern District—Bluff Mounds on the Upper Mississippi—Effigies and Burial Mounds in Wisconsin—Burial Mounds of Michigan—The Chambered Mounds of Missouri—The Stone Cists of Tennessee.

CHAPTER VI.

THE SACRED ENCLOSURES OF OHIO.

The Symbols embodied in Them—The Circle and the Crescent—The Platform—The Circle and Square—Ellipse—The Rhomboid Figure—Enclosures used as Villages—Provisions for Residence, for Amusement, for Water, for Cultivation—The Defenses of the Villages—Parallel Walls and Covered Ways—Fortified Hills—Feast Grounds—Sacrificial Places, as well as Villages Protected by Walls.

CHAPTER VII.

THE STONE GRAVE PEOPLE.

Their Habitation on the Cumberland described by Gen. G. P. Thruston—A Description of the Region—Were they a Historic or a Prehistoric People?—Description of the Pottery Portraits—Their Burial Customs—Who Built the Stone Graves?

CHAPTER VIII.

THE MIGRATION OF THE MOUND-BUILDERS.

Three great Arteries, The Missouri, The Mississippi and The Ohio Rivers—Native Migration through the Ohio Valley—The Ohio River and its Branches, the Kenawha, the Scioto, the Wabash and the Cumberland—Different Tribes of Indians and their Traditions—The Comparison between the Works—The Serpent Effigies—Village Enclosures and Burial Mounds—The Different Modes of Burial in the Valley Compared with those Practiced Elsewhere.

CHAPTER IX.

VILLAGE LIFE AND THE MOUND-BUILDERS' CULTUS.

The Peculiarities distinguishing the Mound-builders' Villages—A study of the Earth-works—Stockade Villages—Walled Villages—The loss of the Cultus—Confederacies among the Mound-builders—Variety in the Village Architecture—The Villages of New York, Ohio, Arkansas, Tennessee and the Gulf States—The Peculiar Features of the Ohio Villages—Heavy Walls—Covered Ways—Observatories—Watch Towers—Graded Ways—Fortified Hills—Lookout Mounds.

CHAPTER X.

PYRAMIDAL MOUNDS IN THE GULF STATES.

The Cahokia Mound and other Pyramids—Brackenridge's Description—Object of the Pyramids—Falling Gardens and the Big Mound at St. Louis—Table of Measurement—The Comparison of the Pyramids in Wisconsin, Illinois and the Gulf States—The Location of the Pyramids on the Lower Mississippi—Walnut Bayou—Prairie Jefferson—Seltzer Township, Bolivar Co.—Pyramids of the Eastern District—The Etowah, Massies, Kohlee Mokee, and other Pyramids—Description of various Pyramids.

CHAPTER XI.

DEFENSIVE WORKS OF THE MOUND-BUILDERS.

Different Methods of Defense in Different Districts—Lookout Mounds in Minnesota, Wisconsin, Illinois, Missouri, Ohio, Indiana and West Virginia—Grave Creek and Vincennes, Indiana—Stockade Forts of Northern Ohio and New York—Stockade Forts of Southern Ohio, comparatively modern—"Ancient Hill Forts" in Southern Ohio—"Fortified Hills" in Highland County—Fort Ancient—Two Forts North and South—Gateways—Walls—Lookouts—Terraces—Forts on the Miami, Coleraine, Hamilton, Carlisle and Farmersburg—"Stone Forts" at Bourneville, Ohio, Clark County, Indiana, Manchester, Tennessee—"Walled Towns" on the Big Harpeth—Mandan Fort on the Missouri—"Walled Towns" on the St. Francis River and in the Cypress Swamps of Arkansas.

CHAPTER XII.

THE RELIGIOUS WORKS OF THE MOUND-BUILDERS.

Religious Sentiment Strong—Different kinds of Religion manifest among the Mound-builders—The Geography of Religion—Animism—Among the Nomads—Chambered Mounds on the Upper Mississippi—Animal Worship—The Effigy Mounds and Totemism—The Myth-bearers among the Effigies—Fire Worship in Iowa and Illinois—Cremation Mounds near Davenport—Moon Cult in Southern Ohio—Crescent shaped Wall around the Dance Grounds—The Moon Cult and the Altar Mounds.

CHAPTER XIII.

THE WATER CULT AND THE SOLAR CULT.

Religious Systems of the Mound-builders continued—Three Systems embodied in the Ohio District; Serpent Worship, Sun Worship and the Water Cult, similar to that in Great Britain—The Works at Avebury and the Works at Portsmouth, Ohio, compared—Horseshoes, Concentric Circles and Parallel Walls connected with the Water Courses—Sun Worship, Sun Circles and Graded Ways on the White River and Kenawha River—Altar Mounds devoted to Sun Worship—Orientated Pyramids—The Vincennes Mound—Correspondence of the Sun Symbols on the Shell Gorgets and in the Earth works—Spool Ornaments and Incense Pipes signs of Sun Worship—Crescent Pavement at Circleville.

CHAPTER XIV.

MOUND-BUILDERS' AND INDIAN RELICS.

The terms Indian and Mound-builders—The Protohistoric and the Prehistoric Periods—Deterioration of Native Art—Geographical distribution of Relics—Relics from Canada, Indian and from Ohio Mound-builder—Comparison of the Relics of the Indians and the Mound-builders—Certain Portrait Pipes, Modern, others Ancient—Indian Maces and Mound-builder Maces compared—Monitor Pipes of the Indians and Mound-builders compared.

CHAPTER XV.

SYMBOLISM AMONG THE MOUND-BUILDERS.

The Cup Stones in Europe and America—Spool Ornaments—The Serpent Symbol in Illinois and in Ohio—The Phallic Symbol and the Suastika—Conventional Figures—Inscribed Tablets.

CHAPTER XVI.

RELICS FROM ALTAR MOUNDS AND ASH PITS.

Description of the Altar Mounds—Symbolism in the Altars and not in the Ash Pits—Fire used in the Altars and not in the Ash Pits—Character of the Relics in the Altars; Copper, Lead, Gold, Silver, Iron—Carved Pipes and Figures upon the Altars—Character of the Relics in the Ash Pits—Rude Pipes from Lime Stone and Sand Stone—Pottery Vessels numerous in the Ash Pits, not in the Altars—Modern looking Relics, Copper Bells, Pottery Vases, Eagle Pipes.

CHAPTER XVII.

RELICS SHOWING THE CIVILIZATION OF THE MOUND-BUILDERS.

Civilization not in the Stone Age—Mound-builders not Civilized, as shown by their Arts, but the social condition varies with the locality—The Art of Weaving and Making Pottery—The Material used—Ornamental Patterns, the Greek Fret and other Symbols—Three distinct grades exhibited in America; Savagery, Barbarism and Civilization—The Mound-builders in the upper grade of Savagery or lower grade of Barbarism—The difference between the Northern and Southern Mound-builders exhibited in their Works and Relics.

REESE LIBRARY
OF THE
UNIVERSITY
CALIFORNIA.

ILLUSTRATIONS.

CHAPTER I.

PAGE.

Figure 1—Paleolithic Relics of St. Acheul Type..... 2
2—Paleolithic Relics from the Delaware River..... 3
3—Place of First Find..... 4
4—Place of Second Find..... 4
5—Pestle and Mortar..... 5
6 and 7—Nampa Image..... 6
8—Relic from Cave..... 7
9 and 10—Paleolithic Relics from Cave in France..... 8
11—Caves of the Cliff-dwellers..... 9
12—Paleolithic Ax from Trenton Gravel..... 12
13—Elephant Pipe from Iowa..... 13

CHAPTER II.

Figure 14—Animal Effigies..... 22
15—Burial Mounds in Illinois..... 23
16—Fort at Conneaut, Ohio..... 24
17—Fort at Weymouth, Ohio..... 25
18—Village Enclosure in Ohio..... 26
19—Village of Stone Grave People..... 28
20—Chunky Yard..... 29

CHAPTER III.

Figure 1—Elephant Effigy in Wisconsin..... 32
2 and 3—Obsidian Arrows from Idaho..... 33
4, 5, 6 and 7—Shell Beads from Mounds..... 33
8—Bone Needles..... 33
9—Pottery Vase from Michigan..... 34
10—Hoes from Tennesse..... 35
11—Sickles from Tennessee..... 36
12—Banner Stones from Florida..... 37
13—Gold (not Silver) Ornament from Florida..... 38
14—Gold (not Silver) Ornament from Florida..... 38
15—Nondescript Animal from Davenport Mound..... 39
16—Copper Ax Covered with Cloth..... 40
17—Elephant Pipe found in Cornfield in Iowa..... 41
18—Section of Mound on Cook Farm in Iowa..... 42
19—Plan of Mound on Cook Farm..... 43
20—Hieroglyphics on Davenport Tablet..... 44
21—Hieroglyphics on Stone Tablet..... 45
22—Map of Mounds on Cook Farm in Iowa..... 47
23—Altar Containing Sand Stone Tablet..... 47
24—Davenport Tablet..... 48

CHAPTER IV.

PAGE.

Figure 1—Buffalo and Bear near Prairie du Chien..... 49
2—Earthworks at Hopeton, Ohio..... 51
3—Stratified Mounds near Davenport..... 53
4—Circle and Square (partially obliterated) near Chillicothe, Ohio. 54
5—Circle and Square on Paint Creek, Ohio..... 55

CHAPTER V.

Figure 1—Burial Mounds near Gideon's Bay, Minn..... 66
2—Mound near Moline, Illinois..... 68
3—Mound and Shell Heap, To-head Island..... 68
4—Group of Mounds on High Ridge..... 69
5—Burial Mounds near Moline, Illinois..... 69
6—Burial Mounds near Wyalusing, Wisconsin..... 70
7—Effigies near Beloit, Wisconsin..... 71
8—Effigies and Mounds near Koshkonong, Wisconsin..... 71
9—Mounds at Waukesha, Wisconsin..... 72
10—Mounds at Indian Ford, Wisconsin..... 72
11—Mounds on Rock River..... 72
12—Mounds, Newton, Wisconsin..... 72
13—Burial Mounds near Aztlan..... 73
15—Chambered Mounds in Missouri..... 75
16—Stone Vaults in Missouri..... 76

CHAPTER VI.

Figure 1—Platform Mounds near Marietta, Ohio..... 83
2—Platform and Circle at High Bank, Ohio..... 84
3—Circular Mounds, Portsmouth, Ohio..... 85
4—Circle at Circleville, Ohio..... 86
5—Octagons and Circle at Newark, Ohio..... 87
6—Works at Portsmouth, Ohio..... 94

CHAPTER VII.

Figure 1—Wolf's Head from Stone Grave..... 101
2—Pottery Portrait from Stone Grave..... 102
3—Portrait Pipe (Indian) from Tennessee..... 103
4—Pottery Portrait from Arkansas..... 104
5—Head of Stone Image, Tennessee..... 105
6—Female Portrait, Stone Grave..... 106
7—Male Portrait, Stone Grave..... 106
8—Heads used as Handles..... 107
9—Pottery Heads used as Handles..... 108
10—Pottery Heads with Headdress..... 109
11—Panther Pipe from Carthage, Missouri..... 110

CHAPTER VIII.

Figure 1—Grave Creek Mound..... 114
2—Map of Works on Paint Creek, Ohio..... 115
3—Fort at Hardinsburg, Ohio..... 116
4—Great Mound at Vincennes, Indiana..... 117

PAGE.
Figure 5—Fort of Stone Grave People....118
6—Burial Mounds on Scioto River....119
7—Serpent Mound in Ohio....122
8—Serpent Mound in Illinois....123
9—Altar Mound in a Circle, on Kenawha River....124
10—Village Enclosure on Scioto River....126
11—Stratified Mound in Wisconsin....130

CHAPTER IX.

Figure 1—Village with Water Supply....134
2—Village with Sacrificial Mound....135
3—Stockade Village near Granville, Ohio....136
4—Stockade Village on the Miami....137
5—Stockade Village Four Mile Creek, Ohio....138
6—Sacred Enclosures in Kentucky....139
0—Mound-builders' Village and Covered Way....141
00—Mound-builders' Fort....147
00—Stone Fort in Tennessee....141
00—Stockade Fort in Ohio....141
7—Observatory Mound at Newark....153
8—Graded Way at Piketon, Ohio....154

CHAPTER X.

Figure 1—Cahokia Mound, Illinois....158
2—Big Mound at St. Louis....164
3—Pyramid Mounds, Falling Gardens, St. Louis....166
4—Pyramid and Effigies at Aztlan, Wisconsin....171
5—Pyramid and Embankments at Walnut Bayou, Louisiana...173
6—Pyramid, Ponds and Moats at Prairie Jefferson, Louisiana..174
7—Pyramids and Circles in Bolivar County, Mississippi....176
8—Pyramids at Seltzertown, Mississippi....177
9—Etowah Pyramids and Mounds....179
10—Pyramids on Shoulder Bone Creek....180
11—Pyramids on Ocmulgee Creek....181
12—Messier Pyramid and Pond....182
13—Pyramids and Earthworks at Kolee Mokee, Georgia....183

CHAPTER XI.

Figure 1—Hill Mounds near Chillicothe, Ohio....188
2—Map of Fort on Miami River....189
3—Stockade Fort at Newburgh, Ohio....193
4—Fort at Coleraine, Ohio....198
5—Fort near Hamilton, Ohio....199
6—Fort Ancient....203
7—Farmersville Fort, on Big Twin River....207
8—Carlisle Fort, Ohio....209
9—Stone Fort on Massies Creek....211
10—Mandan Fort, on the Missouri River....215
11—Walled Town on Big Harpeth, Tennessee....216

CHAPTER XII.

PAGE.

Figure 1—Chambered Mounds on Iowa River....223
2—Chambered Mounds near East Dubuque....224
3—Chambered Mounds in Crawford County, Wisconsin....225
4—Circles of Skeletons at East Dubuque....226
5—Chambered Mounds in Missouri....226
6—Animal Totems in Wisconsin....227
7—Turtle Totems in Wisconsin....228
8—Myth Bearer of the Dakotas....229
9—Myth Bearer from a Cave in Wisconsin....229
10—Alligator Mound and Altar in Ohio....230
11—Copper Axes and Pottery Vessels from Toolsboro, Iowa....234
12—Skeletons in Mounds near Davenport....235
13—Crescents and Circles....236
14—Crescents and Circles in Junction Group, Ohio....238
15—Crescents and Circles in Black Water Group....239
16—Symbolic Works in Seal Township, Ohio....240
17—Altar of Leaf-shaped Implements in Ohio....242

CHAPTER XIII.

Figure 1—Horseshoe Enclosures at Portsmouth, Ohio....249
2—Effigy of Elephant in a Circle....250
3—Concentric Sun Circles and Terraced Mound....251
4—Terraced Mound opposite Portsmouth, Ohio....252
5—Enclosure and Covered Way, Portsmouth, Ohio....253
6—Circle and Square on Paint Creek....256
7—Constructed Ellipse near Anderson, Indiana....257
8—Sun Circle on White River, Indiana....258
9—Circle and Ellipse in Anderson, Indiana....258
10—Sun Circle and Graded Way in West Virginia....259
11—Plan of Altar Mound....260
12—Altar in shape of Circle....260
13—Altar Mound....261
14—Altar in Relief....262
15—Crescent Pavement....262
16—Works at Alexandersville, Ohio....264
17—Works at Worthington, Ohio....265
18—Spool Ornament and Cross from Stone Grave....266
19—Pipe from Etowah Mound....267
20—Circle and Crescent Pavement, Circleville, Ohio....269

CHAPTER XIV.

Figures 1 and 2—Indian Arrow Heads....274
3 and 4—Indian Arrow Heads....274
5—European Portrait Pipe....275
6—French Portrait Pipe....276
7—Chinese Portrait Pipe....276
8—Grotesque Portrait Pipe....277
9—Grotesque Portrait Pipe....277
10—Mound-builders' Portrait....278

PAGE
Figure 11—Bird-shaped Pipe....278
12—Cherry Bird Pipe....279
13—Modern Pottery Bird Pipe....279
15—Portrait Pipe....280
16—Pipe, Glass Stopper Shape....280
17—Pipe, Glass Stopper Shape....280
18 and 19—Trumpet-shaped Pipe....281
20—Trumpet-shaped Pipe....282
21—Tube Pipe....282
22—Tube Pipe....283
23—Flat Pipe....283
24—Flat Ceremonial Pipe....284
25—Flat Ceremonial Pipe....284
26—Brooding Ornament....285
27—Brooding Ornament....285
28—Saddle-shaped Stone....286
29—Indian Mace....286
30—Indian Mace from Canada....287
31—Mound-builders' Mace from Florida....287
32—Rude Monitor Pipe from Canada....288
33—Rude Monitor Pipe from Canada....289
34—Rude Monitor Pipe (Indian)....290
35—Portrait and Monitor Pipe (Mound-builders)....291

CHAPTER XV.

Figure 1—Fire and Serpent Symbols from Arizona....301
2—Fire Generators or Suastika from Tennessee....301
3—Cahokia Tablet....303
4—Cahokia Tablet and Phallic Symbol....303

CHAPTER XVI.

Figure 1—Altar Mounds at Clark's Works....311
2—Copper Rings from Altar Mound....312
3—Altar with Intruded Indian Burial....313
4—Double Altar in Mound City....314
5—Paved Altar in Mound City....315
6—Altar made of Flint Disks....316
7—Double Altar, with Pavement....317
8—Heron Pipe....320
9—Spotted Toad Pipe....321
10—Tufted Serpent Tablet....322
11—Ash-pits and Contents....325
12—Pottery Vessels, Salamander Ornament....326
13—Pottery Vessels with Ears....327
14—Limestone Pipe....328
15—Sandstone Pipe....328
16—Catlinite Pipe....329
17—Catlinite Pipe....329
20 and 21—Limestone Pipe....330
22—Inscribed Stone Pipe from Tennessee....331

PAGE.
Figure 23 and 27—Limestone Pipes....332
24 - Copper Bell....333
25—Pottery Vase....334
26—Eagle Pipe....335

CHAPTER XVII.

Figure 00—Stone Fort in Tennessee....342
1—Fortified Village with Bastion Walls....343
2—Mississippi Pottery....346
3 and 4—Banner Stones with Greek Fret....347
5—Pottery from Moqui Pueblos....348
6—Pottery from Stone Graves....349
7—Frog Pipe from Indiana....353
8—Stone Pulleys from Stone Graves....354
9—Flint Hoes from Tennessee....354
10—Barrel-shaped Disk from Tennessee....355
11—Cloth from Mound in Ohio....355
12—Otter and Monitor Pipes from Ohio and Iowa....356
13—Bird Pipe from Stone Graves....357
14—Stone Whistle from Tennessee....357
15—Clay Pipe from Indiana....358
16—Chunkey Stones from Ohio....359

MAPS.

Map of Mound-builders' Territory....14 to 15
Burial Mounds near Muscatine, Iowa....17
Works of Scioto Valley....18
Burial Mounds in Minnesota....58 to 59
Mounds of Kanawha Valley West Virginia....112
Mounds on Wateree River, South Carolina....113
Villages on Paint Creek, Ohio....115
Villages in Cypress Swamps, Arkansas....132 to 133
Forts on the Miami River....189

REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA.

CONICAL MOUND AT MARIETTA.

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA.

THE MOUND-BUILDERS.

CHAPTER I.

THE MYSTERIOUS RACES.

America is called the New World, and so it is, for it is newly discovered. Our claim, however, is that America is also an old world, and compares well with other countries in this respect. We invite our readers into the field of American antiquities and would call attention to the prehistoric tokens and remains which are so numerous. We are well assured that there are many things which will interest them, and that much may be learned from the study of American archæology.

History is but recent, but we open the door from the historic to the prehistoric, and at once perceive the ancient. The vista of a long past opens before us. It stretches beyond our vision, and we are surprised at its magnitude and variety. There is, indeed, an air of obscurity covering a portion of it and deep mystery enshrouding it; but this is the case in all lands.

To illustrate: Egypt has a history which extends far back into the remote past, but what occurred before history is unknown. The same may be said of Chaldea, Babylonia, Assyria and India. The history of these countries is carried back constantly by new discoveries; nevertheless, deeper obscurity has come upon prehistoric times. It was the ambition of these eastern races to be considered very ancient, but the fabulous dates have been disproved, and yet the mysterity still remains. China is supposed to have had a history which reached back hundreds of thousands of years. Such extreme antiquity is denied to China, but her earliest history is acknowledged to be uncertain and obscure. Greece has had a more modern beginning, but even in Greece history was preceded by mythology, and that mythology is dim and shadowy. The early history of Rome is perhaps better known, but a mysterious people is supposed to have occupied Italy before the Latins migrated from the east. In Scandinavia we find the story of the Sea kings. These figure conspicuously as the earliest heroes, but other people dwelt there long before

the Sea kings. In Great Britain there were also mysterious races. We go back of the Norman conquest to find the Celts and Saxons, and go back of the Celts and Saxons to find the Britons and the Basques, who were comparatively modern. We read the story of King Arthur and his Round Table and the tales of the Druids as marking the earliest period of history, but we find the prehistoric people of Great Britain preceding all. The same may be said of the continent of Europe. We go back to the days of Minnesingers and to the earliest traditionary periods, but long before these there were races in Europe. In America also there were mysterious races. Here the one great event of history was the landing of Columbus. It is, however, a very modern event. The prehistoric period in America was much more ancient and prolonged than the historic, and yet there is great obscurity over the entire period.

Fig. 1—Paleolithic Relic, St. Acheul Type.

We have set before us the subject of this chapter, "The Mysterious Races," especially those found in America. We are to take the monuments and the relics as an evidence that such races have existed, but we are to study these as our special source of information. We call them the prehistoric races, and yet may treat them as though they were historic.

I. We are to begin with the paleolithic age. It is now acknowledged that there was a paleolithic age in America as well as in Europe. It is perhaps due to the investigations of Dr. C. C. Abbott that the first discovery of the paleolithic age in America was made. This consisted in the finding of many rude relics in the gravel beds near Trenton, New Jersey—relics which strongly resemble the paleolithics of Europe. It was followed, however, by the discovery of quartz implements in the vicinity of River Falls, Minnesota, by Miss Francis E. Babbit. Figs. 3 and 4.*

*The cuts show the location of the gravel beds at Trenton and River Falls. They also illuscrase the relation of these beds to the ancient rivers and to the loop in the moraines. Other relics have been discovered at Medora, Indiana, and at Loveland, Ohio, and at Newcomerstown, Ohio. These were also at the edge of the same great ice sheet.

The terminal moraine of the "great glacial sea" stretches across the continent, leaving the marks of the progress and decline of the ice age throughout the northern borders. Scattered along this terminal moraine at various points these relics have been discovered which show that man existed even in the "ice age". They are not found at very great depths nor are they associated with remains which indicate very great age; but so far as they go, they help us to understand the mystery of man's beginning. The condition of man was primitive, scarcely more than a savage who gained his subsistence by fishing and who dwelt upon the edge of the ice sheet and fabricated rude relics. If more of the extinct animals had been found associated with his remains or fragments of the food upon which he had subsisted had been discovered, we should know something of his condition. All that we can say about this mysterious race is that they used rude stone weapons and that they belonged to the paleolithic age.

Fig. 2.—Paleolithic Relic from the Delaware.

The date of man's first appearance is now unknown. Some carry back the paleolithic age through the entire preglacial period, making the two contemporaneous; while others introduce it at the close of the glacial period, making the age of man in America about ten thousand years. The prevalence of man at the close of the period is certainly to be acknowledged. The paleolithic relics are wide-spread, and show that paleolithic man was present in many places. We call attention to the cuts (Figs. 1 and 2) here, which illustrate the paleolithic relics which are found in Europe and America. The specimen represented as European was described by Dr. Thomas Wilson in THE AMERICAN ANTIQUARIAN and is called by him the Chellean or St. Acheul type.* The American specimen was described in the same journal by Dr. C. C. Abbott and is said to be a good representative of

*See American Antiquarian, Vol. X, p. 6; Vol. VII, p. 308; Vol. VIII, p. 44. Also Popular Science Monthly for July, 1891.

the argillite of the Delaware. Dr. Abbot speaks of others in the shape of rude axes, some of which exhibit an imperfect groove, as if intended for a handle, near the middle. See Fig. 12. It will be noticed that there is a striking resemblance between the relics found in America and those found in Europe. The shape is that of a pear. The European specimens generally contain a gloss upon them, which is called the patina, and frequently have dendrites upon the surface, which are sure signs of age. The American specimens very rarely have the patina or the dendrites. Prof. Wright, however, says that the relic discovered by Mr. W. C. Mills, in 1889, at Newcomerstown, fifteen feet below the surface, has the patina characteristic of the genuine flint implements of great age in the valley of the Somme."

Fig. 3.—Place of the First "Find."

2. This leads us to the consideration of the auriferous gravels and lava beds. The discovery of a fragment of a human skull associated with the bones of the mastodon in the auriferous gravels of Table Mountain, at the depth of 180 feet, in 1857, was an event which excited interest among all the learned societies in America and Europe. A few years later, in 1866, Prof. J. D. Whitney announced the discovery of a skull, nearly complete, at a depth of about 130 feet. This was in Calaveras County, on the western slope of the Sierra Nevadas. The deposit rested on a bed of lava, and was covered with several layers of volcanic deposits. The skull was imbedded in consolidated gravel, in which were several other fragments of human bones and remains of some small animals and the shell of a land snail. Much discussion followed this discovery. Many were inclined to doubt its genuineness. Some maintained that the miners had perpetrated a trick, as the skull was taken from the shaft of one of the ancient mines. Professor Whitney, however, published a letter, in which he maintained the genuineness of the find, and claimed for the skull extreme antiquity. His words are: "I feel no hesitation in saying that

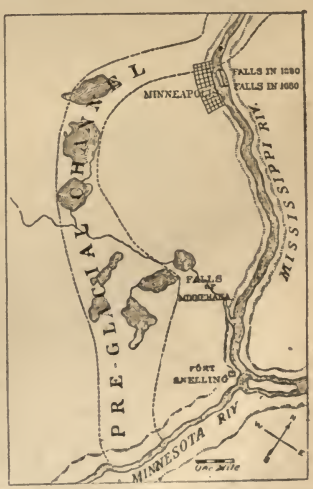


Fig. 5.—Place of the Second "Find."

we have unequivocal proofs of the existence of man on the Pacific Coast prior to the glacial periods, prior to the existence of the mastodon and the elephant, and at a time when animal and vegetable life were entirely different from what they are now, and since which a vertical erosion of from two thousand to three thousand feet of hard rock strata has taken place." He published a monograph on auriferous gravels, in which he described the various localities where steatite pots and ollas and mortars had been found, some of them at the depth of fifty feet. Major J. W. Powell has shown that these were just such mortars as are found on the surface and so should be classed with neolithic relics of an advanced type. Fig. 5. It should be said also of the Calaveras skull itself that it gives contradictory evidence. While in some respects it resembles the Eskimo type, it is far from being such a skull as one would expect to find in the gravel beds. Judging from its position we should consider this perhaps the most ancient relic which has been discovered, and might conclude that it proved that man existed in the tertiary period, but an examination of the skull would lead to the opposite conclusion. The Neanderthal skull stands in the world of science as the representative of the most ancient of the human race. The Calaveras skull is in strong contrast with the Neanderthal. It was found at a greater depth and should be the older, but it was superior and so would be classed as the younger.

Fig. 5.—Pestle and Mortar.

Dr. Thomas Wilson sums up the characteristics of paleolithic man as far as known. "He was short of stature and strong of limb. His head was long in proportion to its breadth, his under jaw was square and heavy, and his chin sloped backward, and he had a retreating forehead. His skull was small in front and large behind." No such characteristics can be recognized in the ancient American. It is a theory with some that the paleolithic man of Europe migrated through Northern Asia and survives in the Eskimo of the present. This is indeed possible. This paleolithic man might, in the very early ages, have passed over the bridge formed by the Aleutian Islands. He may have migrated southward, keeping on the edge of the "ice sheet." He may afterward, after the ice sheet retired, moved northward,

leaving a few stray specimens buried in the gravel-beds, but the ollas and the mortars are still unaccounted for.

In reference to the relics found in these gravels, Prof. F. G. Wright says: "I was so fortunate as to run upon evidence of a previously unreported instance of the discovery of a stone mortar under Table Mountain. This mortar was found in 1887, 100 feet below the surface and 175 feet in a horizontal line from the edge of the basalt; made from a small boulder. It is six and a half inches through the hollow, being about three and a half inches in diameter and three inches deep. Another mortar was discovered in 1879, and was reported in 1891 as coming from undisturbed gravel, and a pestle was presented by Mr. J. F. Becker to the Geological Society with the assurance that Mr. Clarence King took it with his own hands, twenty years before, from the gravel under Table Mountain."*

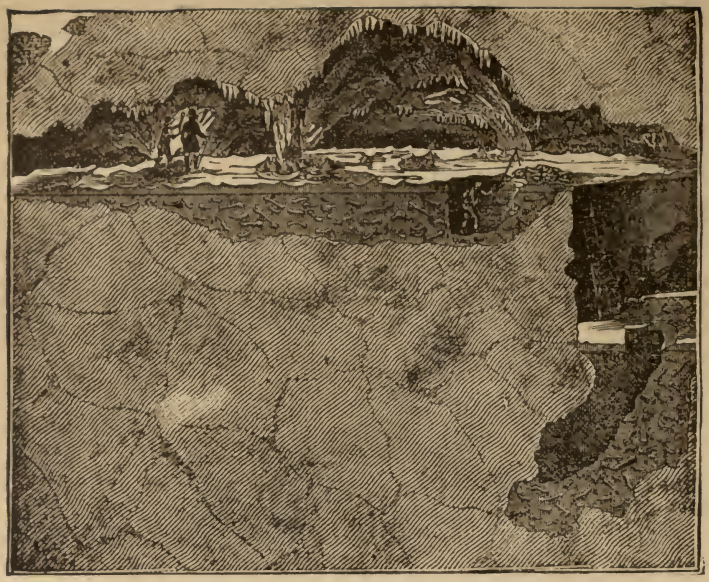
Figs. 6-7.—Nampa Image.

The Nampa Image has excited much attention. It has been described by Prof. Wright.† It was discovered at Boise City, Idaho Territory, in an artesian well at a depth of 320 feet and 200 feet below the lava rock, in a layer of coarse sand, and immediately above a vegetable soil. The deposits may have been caused by some ancient obstruction of the Snake River, or by some sudden flood caused by the melting of the glaciers of Yellowstone Park. The image, according to one account by Professor Wright, was made of clay—the same kind of clay which came out in balls from the well. According to another it was carved out of rather fine pumice stone, though in his last report it was made of slightly baked clay, encrusted with a coating of red oxide of iron. It was an inch and a half long. It came up in the sand pump through the heavy iron tubing, six inches in diameter.‡ See Figs. 6 and 7. "The high degree of art displayed is noteworthy and the proportions are perfect, and there is a pose of the body that is remarkable. These differentiate it from anything that has been found among the relics of the Mound-builders."

Another discovery was the so-called "fossil foot-prints." It was made by Dr. Earl Flint, of Nicaragua. The "foot-prints" were found in the solid tufa in the neighborhood of Lake Managua. He found also in the same vicinity a cave which contained "rock inscriptions," some of them in the shape of sun symbols. His theory was that the foot-prints and inscriptions

*See Popular Science Monthly, July, 1891, p. 319.
†See AMERICAN ANTIQUARIAN, Vol. XI., No 6. The cuts are from *The New York Independent.*
‡See proceedings of Boston Natural History Society, January, 1890, Popular Science Monthly, July, 1891.

PLATE I.—FOSSIL FOOT-PRINT PROM NICARAGUA.



EUROPEAN PALEOLITHIC CAVE AT GAILENREUTH.

PLATE II.—AMERICAN NEOLITHIC CAVE IN COLORADO.

were made at a very ancient date, and that man existed as early as the eocene or miocene. Imprints were sent to Prof. Baird, to Dr. D. G. Brinton and to Prof. F. W. Putnam and with them specimens of the shells which were found with the "foot-prints." See Plate I. This discovery caused considerable discussion, but Dr. Brinton and others took the ground that the "tufa" in which the foot-prints were imbedded may have been the result of an eruption, comparatively recent, and that the shells and other associated tokens do not show great age. The claim that the Cave-dwellers were capable of marking complicated sun symbols upon the rocks, and of protecting their feet with sandals as they walked over the tufas, is not in keeping with the idea of great antiquity. Certainly man who was associated with extinct animals was not likely to have attained to any such advanced state.

II. We turn next to the Cave-dwellers. It is due to the naturalist Lund that the discovery of Cave-dwellers in America was made. In a cave excavated in the limestone on the borders of a lake in the province of Minas Geraes, Brazil, he dug out the bones of more than thirty individuals. Mixed up promiscuously with the human remains were found those of several animals still extant in the same region. Pursuing his researches, he explored more than a thousand caves, but in only six of them did he find human bones associated with extinct animals. He succeeded in gathering complete specimens of forty-four species now extinct, including a rodent of the size of the tapir, a peccary twice as large as the living species; a megatherium, large cat, bigger than a jaguar; a smilodon, a large animal akin to the saber toothed tiger; an edentate of the size of the tapir; and also a species of the horse, similar to our own; a llama and several monkeys. Lund claims the presence of man on the American continent from very remote antiquity, that his appearance dated in South America not only earlier than any prehistoric period, but even earlier in the prehistoric period than is claimed for man in Europe, as several species of animals have disappeared from the fauna since his advent. Another explorer, Ameghino, also tells us that on the banks of the little stream of Frias, twenty leagues from Buenos Ayres, he met with human fossils mixed with charcoal, pottery, burnt and scratched bones, arrow

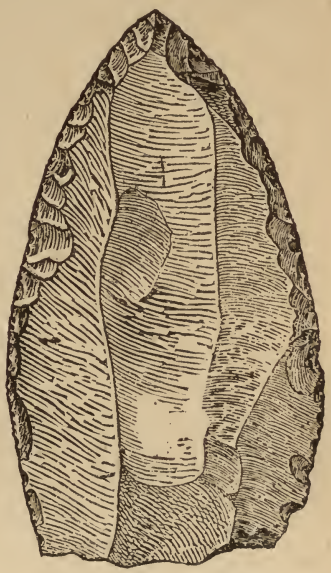
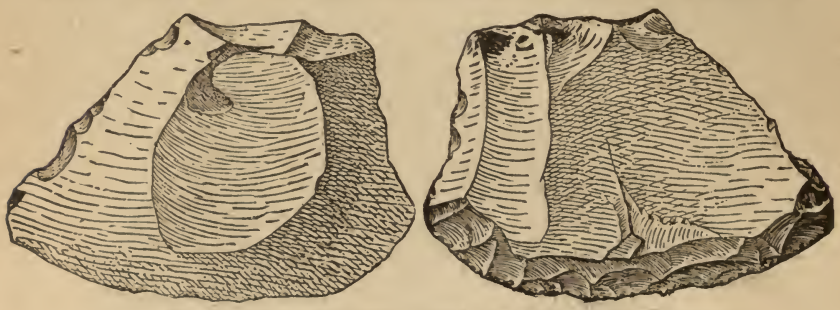


Fig. 8.—Relic from Cave.

heads, chisels, stone knives, together with a number of bones of extinct animals on which were marks of chopping, evidently done by the hand of man. Ameghino's discoveries led to long discussions. Burmeister rejected the theory of the contemporanity of man and mammals whose bones were found together, the Argentine Scientific Society even refusing to listen to a memoir upon this subject.

A discussion has arisen about the caves and the geological time which we must assign to the upper stratum where the human bones were found. Darwin considers it recent, Burmeister assigns it to the quaternary, while Lund thinks they are alluvial deposits. The discoveries in North America are no less



Figs. 9 and 10.—Palcolithic Relics from Caves in France.

curious, though we accept them with a little more confidence.* See Figs. 8, 9, and 10.† Here the Cave-dwellers, so far as they have been discovered have proved to be comparatively modern. There are no examples in which the Cave-dwellers and extinct animals were associated. A great contrast exists between caves in North America and those in Europe. We call attention to the cut (Plate II) which represents a cave at Gailenreuth, in Bavaria. It shows how the bones of man were deposited by the floods which filled the caves at intervals and how the stalagmites gradually accumulated and covered over the layers of bones with a rocky crust. In contrast with this are the shelter caves which were occupied by the Cliff-dwellers. In them were the houses of the people, and all the conveniences for permanent abode. The cuts show that American Cave-dwellers were neolithic, not paleolithic. Fig. 11.

Caves have been discovered on the northwest coast, in California, associated with kitchen middens. Shelter caves have been discovered near the Atlantic coast. One of them, near Chickies, Pa., has been described by S. S. Haldeman. It is said

*See Nadaillac's Prehistoric American, page 23. Nott. & Gliddon, page 350. Archives de Museo Nacional, Rio de Janeiro, 1876.

†We give a few cuts of the relics taken from the caves in France. These are described by Dr. Thomas Wilson and classed with the Mousterien epoch, which he regards as contemporary with the glacial period. Another relic illustrates the Madeleinien epoch. This epoch was marked by the presence of the reindeer, figures of the reindeer, mammoth and cave-bear having been found engraved on tusk's, deer's horns and flat stones. These were found in shelter caves.

to have contained many rude stone relics as well as human remains. Shelter caves have been described by C. C. Baldwin and M. C. Read, as found at Elyria and Newbury, Ohio. These contain many bone relics, such as awls, needles, chisels and various other rude articles. They resemble the tools used by the aborigines and can hardly be ascribed to an ancient race. They illustrate, however, one point—that the condition of the Cave-dwellers and early hunters has been perpetuated among the hunters and savages of this continent. The absence of the bones of extinct animals as well as the character of the relics would prove that they were comparatively modern. Col. Charles Whittlesey held that there were three races in Ohio, the first being the Mound-builders, the second being the Cave-dwellers, the third being the Indians; but Prof. Read held that there was a race preceding the Mound-builders, a race whose skulls were very thick and of a low type. Prof. F. W. Putnam draws a distinction between early Mound-builders and late Indians, assigning to the latter the long, narrow skulls so common, but to the former the round skulls, and considers that these were of Southern origin.

Fig. 11.—Caves Occupied by Neolithic Cliff-Dwellers.

A shelter cave was discovered near San Jose, in California, by Dr. Stephen Bowers. It contained a number of baskets, in which were bundles of painted sticks, covered with peculiar signs, probably the outfit of a modern "medicine man." Caves have also been found in Utah, but as the remains of man were

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA

PLAN OF
Mound at
DUNEDIN
Hillsboro Co.
FLA.

FIG. 2.

been described by Mr. Paul Schumacher. He speaks of them as divided into temporary camps and regular settlements, the relics in the "heaps" varying according to the locality. In Southern California "tons of flint chips are found scattered about in all directions; knives, arrow-heads and spear-heads in large numbers. There were graves in some of these, and painted slabs placed over the graves. Cups, ornaments, shell-beads and cooking utensils were also found. Sandstone mortars of large size, with pestles, an assortment of cups of serpentine, spear-heads of obsidian, lance-points of chalcedony, a bronze cup filled with red paint, corroded iron knives, the relics all showing great variety and indicating successive periods of time, the last period being as late as the time of the Spanish occupation."

There are shell heaps also in the interior. These contain fresh water shells and illustrate the fact that the natives everywhere gained their subsistence from the waters. We may take the evidence that fishermen, hunters, agricultural people and villagers dwelt in various localities about the continent. The theory of the gradual progress of mankind is demonstrated here as in Europe. The American races stretched from the Arctic Circle to Terra del Fuego, but a great variety is exhibited by them. It is a question whether we can ascribe to them aboriginal unity or say that they were all indigenous.

V. We now come to the period of the mammoth and the mastodon. There is a mystery about this period. There is no doubt that these animals once existed on this continent and that they may have been contemporaneous with man. It is not improbable that the Mound-builders were acquainted with the mammoth. In the "bottom land" of the Bourbouse River, Gasconade County, Missouri, Dr. Koch discovered the remains of a mastodon. The animal had sunk in the mud of the marshes, borne down by its own weight, and being unable to regain its footing, had fallen on its right side. Here it was attacked by aborigines, who threw at it arrows, stones and pieces of rock, and succeeded in lighting fires around it, to which the heaps of cinders, some of them six feet high, still bore witness. Some of the rocks weighed no less than twenty-five pounds and had been brought from a great distance. The following year he made a similar discovery in Brinton County, Missouri. Here, under the thigh bone of a mastodon, he found an arrow of pink quartz, and a little farther off he found four other arrows, all of which had been shot at the mastodon. Unfortunately Koch's want of scientific knowledge and the exaggerations with which he accompanied his story at first, threw some discredit upon the facts themselves, but the recent discoveries of Dr. Hughey in Iowa and Nebraska, and by the author in Ohio, have now confirmed them. In all of these localities the bones of the mastodon were mixed with ashes, traces of fire and arrow-heads and stone

weapons were in close proximity. The animals in all cases seem to have been mired in the peat beds and attacked by the men who lived in prehistoric times. In the Davenport Academy there are two pipes made in imitation of the elephant or mastodon. One of these pipes is said to have been taken out from the depths of a mound in Louisa County, Iowa. A German clergyman, Rev. A. Blumer, having first discovered it, handed it to Rev. J. E. Gass, his companion in exploration. It is unreasonable to doubt the genuineness of this find, even if the remarkable discoveries which were made by the latter gentleman have been discredited. A second elephant pipe (Fig. 13), which had been discovered in a corn-field by a German farmer by the name of Myers, afterwards came into the hands of Mr. Gass. Three celebrated tablets were discovered by Mr. Gass in the mound on the Cook farm, near Davenport. On one of these tablets is a hunting scene containing thirty figures of animals and men, the animals being deer, bear, wolf and fish, and one of them resembling an elephant. The tablets have not been regarded as genuine. One of them contains a cremation scene, though the mounds of the locality give no trace of cremation having been practiced.

Fig. 12.—Paleolithic Axe.

We shall speak next of the salt mines, cypress rafts, peat swamps and other places where mastodons have been discovered. These have been dwelt upon as proving extreme antiquity, but they are classed together here, as marking one period of time. During the late rebellion a salt mine was worked on Petite Ansie Island. A fragment of matting was found on the salt fifteen feet below the surface of the soil. Two feet below were the remains of tusks and bones of a fossil elephant. The matting was made of the common southern cane, but had been preserved by the

salt. Indescribable quantities of pottery were thrown out, mingled with the remains of extinct quadrupeds. The animals seem to have been bogged and perished in the miry clay above the salt. This locality was examined by Prof. E. W. Hilgard and Dr. E. Fontaine. The latter maintains that the soil above them was quatenary, belonging to the bluff formation, overlying the orange sand. Prof. Hilgard says that the deposit was washed down from the surrounding hills, but that mastodon bones were found above some of the human relics. Dr. Holmes in 1859 made communication to the Philadelphia Academy of Natural Science, in which he described the fragments of pottery found on the Ashley River, of South Carolina, in connection

Fig. 13.—Elephant Pipe.

with the bones of the mastodon and negathirium, both of them extinct animals. Mr. E. L. Berthoud claims to have discovered a complete suite of stone implements in tertiary gravel and coevil with it. This was on Crow Creek, Wyoming. He also claims that stone heaps and circles, flint tools and weapons, marking the site of a deserted ancient village, totally unlike modern Indian or Mound-builders' vestiges. The oldest evidences do not show traces of fire, but a rude barbarism of the first attempts of art lead us to compare them to the rude tools of Abbeyville in France and the implements of Kent in England. The human skeleton excavated at the depth of sixteen feet from beneath four successive layers of cypress trees in the delta of the Mississippi River, near New Orleans, has been often referred to. Dr. Dowler claimed three epochs for the delta; first, that of the grasses; second, that of the lagoon; third, that of a live oak platform; but Dr. J. W. Foster says what he regards as four buried forests may be nothing more than driftwood brought down in former times.

We speak of these uncertainties about the relics which contain the images of the elephant and mastodon because they

illustrate a point. There are no hard and fast lines between the earliest age of the appearance of man and the different epochs of the prehistoric age. The mammoth and the mastodon came upon the stage long before the glacial period. Their sway is supposed to have been broken by the convulsions and changes which occurred at the close of that period. Specimens of them may, however, have survived even after prehistoric man appeared. The two ages overlapped another. In the same way the historic and prehistoric ages seemed to have merged together, the records of the two being mingled the one into the other, the same as in Europe. There are images of the mastodon inscribed on the bones taken from the caves at Dordogne, showing that man was there contemporaneous with the mastodon. Immense carcasses of the same animal have also been found frozen into the mud in Siberia, and so excellently preserved that the dogs fed upon the flesh. Other carcasses have been seen floating in the waters of the Lena River, having been washed out from their long resting place by a flood. It is supposed that from the same region the animals whose bodies are found in the peat swamps of Missouri, Michigan, Ohio, New York, and as far south as North Carolina, formerly migrated, taking perhaps the same route which their hunters took afterward, when they came into this continent. The glacial period served to bury the majority of them. The swamps of the quaternary age furnished their graves. Uncertain dates are brought before us by these events. Man also came in at an uncertain age. We can not fix upon the time when he first made his appearance.

WILD TRIBES
TOTEMISM
STOCKADES
Trumpet Pipes
HUNTERS
IMAGE WORSHIP
ROCK EFFIGIES
Buffalo Bones
HUNTERS
ANIMAL WORSHIP
EFFIGIES
Copper Relics
AGRICULTURE AND
TOTEMISM
GARDEN BEDS
Pottery
WOODCRAFT
TOTEMISM
MILITARY WORKS
Pottery Pipes
Stone Beetles
NOMADIC HUNTERS
EARTH CULT
STRATIFIED MOUNDS
Copper Relics
Carved Pipes
HORTICULTURISTS
SUN AND MOON CULT
ALTARS & ENCLOSURES
Animal Pipes
Pearl Beads
PALEOLITHICS
NOMADIC
HUNTERS
ANIMISM
CHAMBERED MOUNDS
Agricultural Tools
HORTICULTURISTS
FIRE WORSHIP
BEE-HIVE TOMBS
Shell Gorgets
MOUNTAINEERS
HEARTH CULT
STONE GRAVES
Tablets, Pottery Portraits
Duck Pipes
SWAMP DWELLERS
WATER CULT(?)
LODGE CIRCLES
Spear Gorgets
Pottery
AGRICULTURISTS
SUN WORSHIP
CHUNKY YARDS
Banner Stones
AGRICULTURISTS
SUN AND IDOL WORSHIP
PYRAMIDS
Idols, Portrait Pipes
FISHERMEN
SHELL
HEAPS
Bone & Shell Relics
A MAP SHOWING
1. OCCUPATION,
2. RELIGION,
3. CHARACTERISTIC WORKS,
4. Relics
OF THE MOUND-BUILDERS.

CHAPTER II.

THE MOUND-BUILDERS AND THEIR WORKS.

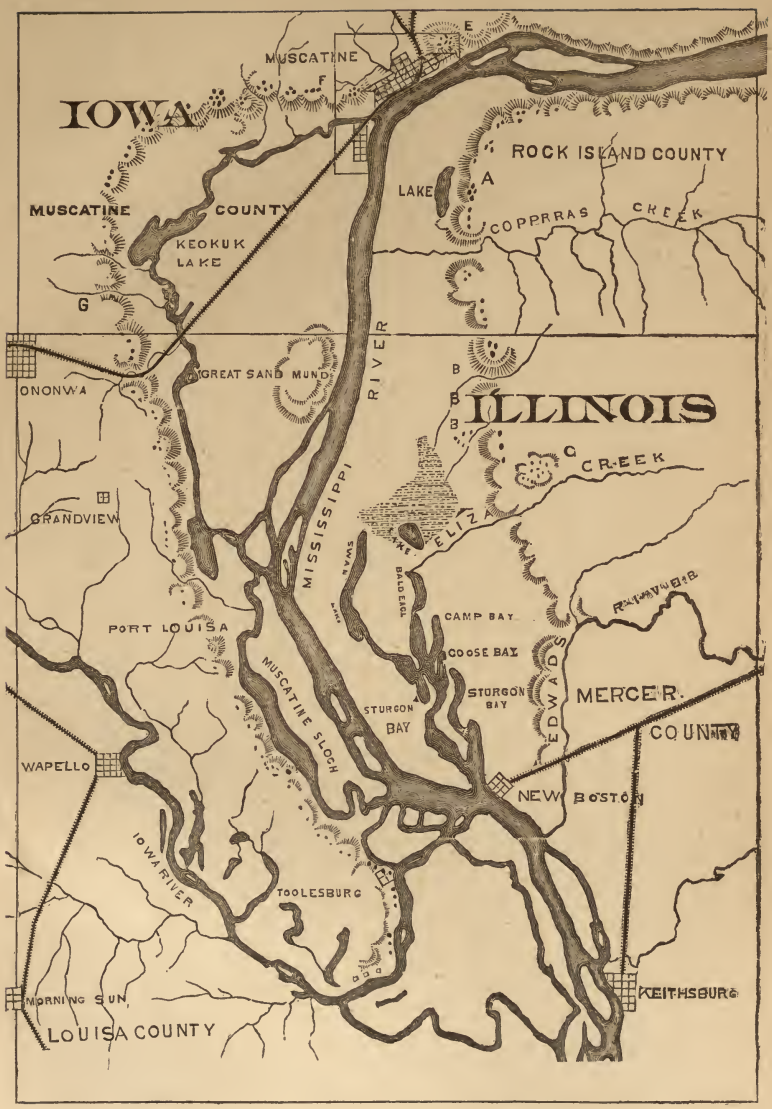
We now come to the Mound-builders. It is well known that a people called Mound-builders once inhabited the interior of North America. Who this people were, whence they came, whither they went, are among the unsolved problems. An impenetrable mystery hangs over their history. All that we know of them is learned from their structures, works and relics. To these mute witnesses we must resort if we are to learn anything of the character of this people. The first inquiry is, Who were the Mound-builders? This question will probably be answered in different ways, but before answering it we shall refer to the points involved and leave it for our readers to draw their own conclusions.

We take up the division of the Mound-builders as the especial subject of this chapter. Let us first consider the name, however. The name "mound-builder" is a general one, indicating that there was once a people who were accustomed to build mounds. In this general sense there is much significance to the name, in that it suggests one characteristic or custom of the people. There is, however, a sense in which the word is used, which makes it very expressive, for it furnishes to us not only a picture of the mounds and earth-works, but also indicates much in reference to the people. We may say in this connection that there are several such words in the archæological vocabulary which have proved equally significant. To illustrate: We use the words "cave-dweller," "cliff-dweller," "lake-dweller," signifying by these terms not merely the fact that those people once lived in caves or cliffs or above lakes, but implying also that they had a mode of life, style of abode, stages of progress, which were peculiar and distinct. We infer from this, that the prehistoric age was divided into different epochs, and that each epoch was distinguished by a different class of structures. This interpretation may need to be modified, for there are certain indications that several representatives of the stone age may have been con-

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA

temporaneous. Still, the modes of life, occupations and habitations were the result of location and of physical surroundings rather than of "age" or stages of progress. While the stone age may be recognized among the Mound-builders, yet a subdivision of that age into epochs may be a safeguard against premature conclusions and unsafe theories, keeping us from extreme opinions. Our readers are aware that the Mound-builders were once supposed to have been a remarkable people, and allied with the historic and civilized races, but that latterly the opinion has gone to the other extreme, the low grade and rude civilization of the wild hunter Indians being frequently ascribed to the entire people, no distinction or limitation being drawn between them. We maintain, however, that the Mound-builders' problem has not been fully solved, and that, therefore, it is premature to take any decided position as to the actual character and condition of this mysterious people. All that we can do is to set forth the points which we suppose have been established and leave other conclusions for the future.

1. The place where the works of the Mound-builders are most numerous is the Mississippi Valley. In a general way their habitat may be bounded by the great geographical features of this valley; the chain of great lakes to the north, the Alleghany mountains on the east, the Gulf of Mexico on the south, and the Great Desert on the west. Within these bounds, mainly, do we find the structures which have given name to this strange people; and we may describe them as the ancient inhabitants of the Mississippi Valley who built mounds. There are barrows or mounds in Europe and in Asia. There are mounds or earthworks in Honduras, Yucatan and Central America, as well as in Oregon and on the northwest coast, but the structures in this region are distinctive, and peculiar to the inhabitants who dwelt here. Nowhere else on the continent are they found in such great numbers. Nowhere else are they found so exclusively free from the presence of other structures. Nowhere else is such a variety of earthworks. To the eastward, along the coast of the Atlantic, there are earth-works, such as stockades, fortifications and village enclosures. To the westward, beyond the Rocky mountains, there are pueblos, rock fortresses and stone structures. To the northward, beyond the lakes, there are occasionally found walls and earth-works; but in the valley of the Mississippi those structures are discovered which may be regarded as distinctive. The peculiarities which distinguish these from others, aside from their being exclusively earthworks, are, first, their solidity; second, their massiveness, and, third, their peculiar forms. By these means the works of the Mound-builders are identified, and in their own territory, wherever a structure may have been erected by a later race, it may be known by the absence of these qualities. There are occasionally earth-works in the valley of the



MAP OF BURIAL MOUNDS NEAR MUSCATINE.

MAP OF THE WORKS OF THE SCIOTO VALLEY.

Mississippi, especially through the northern part, bordering on the lakes, which were evidently built by the later Indians. Their resemblance, however, to the fortifications east of the Alleghanies, and the evident design for which they were erected, as defensive or village enclosures, the unfailing spring attending them, the absence of any religious significance, and their want of solidity and massiveness, help to distinguish them from the works of the Mound-builders.

We take the picture presented by this valley and find it strikingly adapted to the use of a class of people who were partially civilized. On either side are the high mountains, constituting barriers to their great domain. At the foot of the western mountains are the plateaus or table-lands, which have formed from time immemorial the feeding places for the great herds of buffaloes. In the northern portion of the valley, bordering upon the chain of the great lakes, are great forests abounding with wild animals of all kinds, which must have been the hunting-grounds of this obscure people. The center was traversed by the Appalachian range, which was the fit abode for a military class of people. Along the lines of the great streams were the many terraces, forming sites upon which the people could build their villages, and yet have access to the waters which flowed at their base. Many of these terraces were formed by the gravel beds left by the great glacial sea which once rested upon the northern portion of the valley Below the terraces, and all along the borders of the rivers, were the rich alluvial bottom lands which so favored the cultivation of maize and yielded rich return to a slight amount of labor. Broad prairies interspersed with forests and groves, and traversed by numberless streams gave variety to the scene. It was a region built on a grand scale and was capable of supporting a numerous and industrious population. We may suppose that the Mound-builders, when they entered it, were influenced by their surroundings, and that they soon learned its resources. We can not look upon them as merely hunters or wild savages, but a people who were capable of filling this broad domain with a life peculiar to themselves, and yet were correlated to the scene in which they were placed.

Here, with a diversity of climate an abundance of products, the people led a varied life. They were to gain their subsistence from the great forests and from the wide prairies, and were to fill them with their activities. A river system which, for thousands of miles, drained the interior, furnished the channels for communication, and was evidently well understood by this people. A vast sedimentary basin, through which the rivers have worn deep channels, leaving table-lands, cut by a thousand ravines, and presenting bluffs, head-lands, high hills, narrow isthmuses, detached island-like cliffs, in some cases precipitous and difficult of access, furnished many places on which this peo-

ple could build their defenses, covering them with complicated works resembling the citadels of the Old World, beneath which they could place their villages and dwell in safety.

The number of these ancient villages is well calculated to excite surprise. Ten thousand burial mounds or tombs were found in the single State of Ohio, and also a thousand or fifteen hundred enclosures in the same state. Nor is their magnitude less a matter of surprise than their number. Twenty miles of embankment constitute one series of works. Walls sometimes thirty feet in height, and enclosing from fifty to four hundred acres, surround their fortifications. Pyramids one hundred feet in height, covering sixteen acres of ground, divided into wide terraces, three hundred feet long and fifty feet wide, vying with the pyramids of Egypt, formed the foundations for their great houses. Mounds formed their lookout stations, sixty and ninety feet in height. The variety of their works was great, and their distribution widespread. In one part of this wide domain there were game-drives, in which the animals hunted were erected in effigy. In another part were garden beds, covering hundreds of acres, and presenting many curious patterns; in another, large groups and lines of burial mounds; in another, many circles and fort-rings; in another, lodge circles and hut-rings; in another, village circles and dance-rings, interspersed with temple platforms; in another, extensive enclosures, with domiciliary platforms; in another, groups of pyramids, interspersed with fish ponds, surrounded by earth-walls. Everywhere was manifest a wonderful adaptation of the works to the soil and scenery and physical surroundings. Different grades of advancement were exhibited, but at the same time great activity and great skill in gaining subsistence. Every spot was well chosen and the works placed upon it were best adapted to the locality.

II. A distinction between the races of the Mississippi Valley according to geographical lines is to be noticed, those north of the great lakes being generally identified with later tribes of wild hunter Indians; those which adjoin the lakes, and which extend from New York State through Northern Ohio to Michigan, also being ascribed to a military people resembling the Iroquois; those on the Ohio to a class of villagers who were more advanced than any ordinary Indians, and those of the Southern States to a class of pyramid-builders, who were the most advanced of all. The distinction is, however, not only geographical, but chronological, for there are relics which are as strictly military among the villages or sacred enclosures as among those in the homes of the warlike Indians, and there are tokens in the midst of the pyramids which indicate that modern hunters have roamed among the agricultural works, and that sun-worshipers and animal-worshipers have traversed the same regions.

A simple earth-wall, running around the brow of some gentle declivity, or the top of some precipice, or on the edge of some isolated island, presents a very different aspect from those structures which are found oftentimes in the midst of large and fertile valleys, or upon many of the plats of ground where now stand some of the largest cities of modern days, and which, for massiveness and extent, surprise even those who behold them in the midst of the works of civilized man. These earth-walls, or so-called stockades, we maintain, were the works of the later Indians, and can be easily distinguished from the earlier Mound-builders by certain unmistakable evidences. The same may be said also of the relics and other tokens. They may be found in the Mound-builders' territory, but were, many of them, of a later date and of a ruder character, and should be ascribed to a different people and not be confined to one date or race, much less to the so-called modern Indians known to history.

In reference to this point we may say that the evidences are numerous that the people who built the mounds in the Mississippi Valley belonged to different races and occupied the country at different periods and may have come from different sources.

(1.) The traditions of the Indians prove that the lands have been inhabited by different races and at different periods. These traditions prevail not only among the northern Indians, such as the Delawares, the Iroquois and the Algonkins, but also among the southern tribes, such as the Cherokees, the Creeks, Choctaws and Muskogees, all of them indicating that there were later migrations and that other races were in the valley before these tribes reached it. The traditions of some of the Indians, especially those of the south, point back to a period when their ancestors began the process of mound-building; with others the traditions point to a time when they began to occupy the mounds which had been built by another and a preceding people. Nowhere, however, is it claimed that the Indians were the first people who occupied the country or that their ancestors were the first race who built mounds. The evidence is clear that among the various tribes some of them, in the course of their migrations, had been led to abandon their particular mode of building mounds and had adopted the mode of the people whose territory they invaded, and thus the same class of structures continued under the successive races; but the beginning of the mound-building period is always carried back indefinitely, and is generally ascribed to some preceding people.

(2.) The relics and remains prove also a succession of races. This is an important point. A discussion has arisen among archæologists as to who the Mound-builders were, and the idea has been conveyed by some that the Mound-builders were to be identified with this or that tribe which occupied the region at the opening of history. This, however, is misleading. It limits us

to a very modern period and serves to cut off investigation into the more remote ages of the mound-building period.

Our position is that many of the mounds contain a record of successive periods of occupation, some of the burial mounds having been built by several different and successive tribes, and the layers in the mounds being really the work of different tribes. The prehistoric record is plain. The skulls and skeletons found near the surface we may regard as the latest tokens, some of them being quite modern, and the rude relics found in the gravel beds being regarded as the earliest tokens; but the mound-building tokens extended through a long period of time. On these points we give the testimony of the various gentlemen who have explored these mounds. Prof. Putnam says: "In the great Ohio Valley we have found places of contact and mixture of two

Fig. 14.—Animal Effigies.

races and have made out much of interest, telling of conflict and defeat, of the conquered and the conquerors. The long, narrow-headed people from the north, who can be traced from the Pacific to the Atlantic, extending down both coasts, and extending their branches towards the interior, meeting the short-headed and southern race, here and there. Our explorations have brought to light considerable evidence to show that after the rivers cut their way through the glacial gravels and formed their present channels, leaving great alluvial plains upon their borders, a race of men, with short, broad heads, reached the valley from the southwest. Here they cultivated the land, raised crops of corn and vegetables, and became skilled artisans in stone and their native metals, in shell and terra-cotta, making weapons and ornaments and utensils of various kinds. Here were their places of worship. Here were their towns, often surrounded by earth embankments, their fixed places for burning their dead, their altars of clay, where cremation offerings, ornaments, by thousands were thrown upon the fire. Upon the hills near by were

their places of refuge or fortified towns. Preceding these were the people of the glacial gravels. The implements which had been lost by preglacial men have been found in the Miami Valley, as in the Delaware Valley. This would seem to give a minimum antiquity of man's existence in the Ohio Valley from eight to ten thousand years. From the time when man was the contemporary of the mastodon and mammoth to the settlement of the region by our own race, successive peoples have inhabited this valley."*

III. We turn to the division of the Mound-builders' territory. This illustrates several things. It proves that the Mound-builders were, as we have said, greatly influenced by their environments and that their works were correlated to the geographical district. It proves also that there was, in a general way, a correspondence between the Mound-builder and the Indian, as different classes of earth-works and different tribes of Indians have been found in locations or in districts whose boundaries were

Fig. 15.—Burial Mounds.

remarkably similar. This, to some minds, would prove that the Mound-builders and Indians were the same people; but if we take into account that there was a succession of races, and that each race was equally influenced by its environment, we may conclude that the effort to identify the later with the earlier people will require something more than mere geographical division.

Let us now examine the earth-works of the different districts. (1.) The first system which we shall mention is that found in the State of Wisconsin, a State abounding with emblematic mounds. These mounds are confined almost exclusively to the small territory west of Lake Michigan, east of the Mississippi, south of the Fox River and north of the mouth of the Rock River, though a few have been found in Eastern Iowa and Southern Minnesota, on the land immediately adjoining the Mississippi River. The peculiarity of the mounds is that they so strangely resemble the forms of the wild animals formerly abounding in the territory. Very few, if any, extralimital animals are represented in them. The position of these effigies is also noticeable. They are generally located on hill-tops overlooking the beautiful streams and lakes so numerous here. The attitudes of the animals

*Twenty-second Report Peabody Museum, page 53.

are represented by the effigies and the habits are portrayed by the shapes and associations of these earth-works. See Fig. 14. We enter this district and find a remarkable picture of animal life as it existed in the mound-building period. Elk and moose and the large grazing animals are portrayed as feeding; panthers and wolves are represented as fighting; wild geese, wild duck, eagles, swallows and hawks and pigeons as flying; squirrels, foxes, coons, as playing and running; lizards, tadpoles, snakes and eels as crawling; fish and turtles as swimming, and yet all seem to have an indescribable charm about them, as if they had been portrayed by the hand of a superstitious people.

The effigies may have been used as totems by the people, and thus show to us the animal divinities which were worshiped and the animal names given to the clans; but the clans and the animals are remarkably correlated, the names of the very animals which prevailed here having been borne by the clans. More than this, the use of the effigies as protectors to villages, as aids to the hunters, and as guardians to graves, furnish an additional picture of the real life of the people. The attitudes of the animals are always natural, portraying habits and even motions, but a condition is recognized beyond mere animal condition.

Fig. 16—Fort at Conneaut.

In this same State we find the copper mines, which have been worked, and the tools which were used, by the ancient miners. They were rude contrivances, and yet show the skill of the natives in overcoming obstacles. Without knowledge of the mechanical inventions of the wheel and pulley, without the art of smelting, or even of molding the precious metals, the Mound-builders of this region succeeded in manufacturing all the metal tools which were necessary for their purpose, being mostly tools used by hunters, such as knives, spear-heads, axes, chisels, awls, needles and a few ornamental pieces. It is a remarkable fact that imitative art was expended upon the effigies, which elsewhere embodied itself in stone relics or in metal ornaments.

(2.) The second district is the one characterized by burial mounds or ordinary tumuli. See Fig. 15. This is an interesting class of earth-works and may be designated as "prairie mounds." They are situated, to be sure, on the banks of streams, rivers, lakes, marshes, but they are in the midst of the broad prairie region stretching across the north half of the States of Indiana, Illinois, all of Iowa, Minnesota, Dakota, part of Kansas and

Missouri. This broad expanse of territory seemed to have been occupied by tribes of Mound-builders who merely erected burial mounds, but who, owing to their unsettled, migratory habits, did not even stop to build walled defenses for themselves; their works consist mainly in tumuli, vast numbers of which are found scattered over this entire region. We do not say that they were entirely destitute of defense, for there are occsaional earth walls which show that there were permanent villages, but, in the main, defense must have been secured by stockades rather than by earth walls. Occasionally there are ridges or converging walls which resemble the game-drives of Wisconsin, and these furnish additional proof that the people were hunters.* The mounds occasionally present relics reminding us of the hunting habits of the peopie who erected them. Pipes in the shape of raccoons, prairie-dogs, beavers, turtles, lizards, eagles, hawks, otters, wild cats, panthers, prairie-chickens, ducks, and frogs, show that they were familiar with wild animals. The relics which are most numerous are spear-heads, arrow-heads, knives, axes and such other implements as would be used by wild hunters, with a very considerable number of copper implements—axes or celts, awls, knives, needles, and occasionally specimens of woven fiber, which might have formed the clothing for a rude people, and a few specimens of the higher works of art, but there is an entire absence of the symbols found in the mounds of the south.

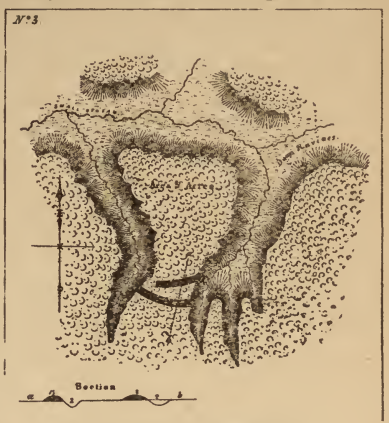


Fig. 17.—Fort at Weymouth, O.

(3.) The third district is the one belonging to the military class of Mound-builders. This district formerly abounded in forests, and was especially adapted to warlike races. It embraces the region situated in the hill country of New York,† Pennsylvania and West Virginia, and extends along the banks of Lake Erie into the State of Michigan. See Figs. 16 and 17.

The mode of life in these regions was military. It was a necessity of their very situation. Here was the effect of nature upon the state of society which was inevitable. These works were military and defensive, as from the nature of their surroundings they must be. The forests gave too much opportunity for

*They are generally built at leading points along the shore of the lakes or on the banks of the principal streams, and are found as far apart as Manitoba Lake and the Illinois River. We call them buffalo game-drives, and conclude that the Mound-builders of this district were buffalo hunters. See Archæological Journal for 1887, page 72; Smithsonian Report for 1870; also our book on Emblematic Mounds.

†See Aboriginal Monuments of Western New York, by E. G. Squier; also Cheney and Whittlesey's pamphlets.

treachery to avoid it. Human nature, when dwelling in such circumstances, would develop in this way. It made no difference what tribe dwelt there, there was a necessity for military habits. We can picture to ourselves exactly the condition of society. Whether the same or different tribes of people inhabited these regions, their mode of life was certainly dictated by circumstances. There were no means by which the people could overrule the forces of nature and gain control of her elements. It was one of the peculiarities of prehistoric society that it was conformed altogether to nature. Civilization alone overrides the difficulties and makes the forces of nature obedient to her wants. We call these military structures comparatively modern, but we do not know how long they continued as a class. If there were those who led a different life they were probably located in the valleys or on the borders of the streams, just where we find a few agricultural works. But the vast majority of works, whether very ancient or more modern, are of the same class, military and defensive. Over 300 military structures are found in the single State of New York; and scattered over the mountains of Virginia and Eastern Tennessee and Kentucky, and everywhere where the hunting life and the warlike and predatory state would be most likely to prevail, there these military and defensive structures are found.

Fig. 18.—Village Enclosure of Ohio.

The Iroquois, the Wyandots and the Eries were warlike people. The Cherokees were also warriors, and may be regarded as the mountain tribes of the east; while the Delawares and some of the tribes of the Algonkins inhabiting New England and the northeastern States led a mingled life, partly agricultural and partly hunting. Thus we have in these localities, at least, a correspondence between the state of the population and the physical surroundings.

(4.) The fourth district is the one most worthy of notice. It is situated in the valley of the Ohio, and is characterized by what have been called "sacred enclosures." We have given them the name of "village enclosures." The characteristic works of the district are composed of the square and two circles adjoined. See Fig. 18. These were evidently the village sites of the people who dwelt here and who practiced agriculture. The locations of the works show this. Most of them are situated on the sec-

ond terrace, overlooking the rich bottom lands, but often surrounded by wide, level areas, on which forests trees grew to a great height. On the hills adjoining these village sites the conical mounds are numerous. These are regarded as lookout stations. There are also in the same region many ancient forts. Some of them are so situated as to give the idea that they were places of refuge for the villages.

There are, in the same region, certain enclosures, which contain groups of burial mounds, and in these mounds altars have been discovered, on which have been deposited large quantities of costly relics, in the shape of pearl relics, carved pipes, mica plates, copper spools, arrow-heads and many personal ornaments. These are the "sacred enclosures" which have given name to the district. In this district there are several truncated pyramids or platforms, with graded ways to the summits. These platforms have been called " temple mounds". The idea of some is, that the enclosures were places of religious assembly, resembling in a rude way the ancient Egyptian temples. At Marietta the enclosures are double. Within one are three platforms, and from it to the water's edge, or to the bottom land, is an inclined or graded roadway, guarded by high banks or earth-works on either side. At the other end of the group is the high lookout mound, surrounded by a circle, and a ditch within the circle. The group may have been the site of an ancient village, or it may be called a sacred enclosure. See Frontispiece.

(5.) The fifth district is situated along the Atlantic coast, and extends from the coast to the Appalachian range. It is the district through which various Indian tribes have migrated and left their varied tokens beneath the soil. Among these tribes may be mentioned the Powhattans, the Cherokees, the Catawbas, the Tuscaroras, and a stray tribe of the Dakotas. It is marked by no particular class of works which can be called distinctive. There are in it, however, various circular enclosures containing conical mounds, resembling those in the fourth district These are found in the Kenawha Valley. Besides these are the remarkable circular grave pits, containing bee-hive shaped cists made of stone found in North Carolina, There are conical mounds in the district which are supposed to have been the foundations of rotundas, as posts for the support of rotundas have been found on the summit. The southern portion of the district is filled with shell mounds and earth pyramids. Considerable discussion has been had as to whether the inhabitants of this region were the Mound-builders of the Ohio district, and a comparison has been drawn between the altar mounds and earth circles in this district and those in Ohio, both having been ascribed to the Cherokees. This is a point, however, which remains to be proved. The works of the district must be ascribed to the different races.

(6.) We now come to the sixth district. This is situated south of the Ohio River, between this and the Cumberland and Tennessee. It is a mountainous and woody territory, and the people who formerly dwelt there may be called the mountain Mound-builders. The peculiarity of the works of this region is that they are mainly fortified villages. They are to be distinguished, however, from the fortifications of the third district, and from the villages of the fourth district, by the fact that they combine the provisions for defense and for permanent residence in the same enclosure. The village enclosures in Ohio are double or triple, but those found in this district are always single. Their locations show that they were chosen for defense, but their contents show that they were used for places of permanent abode. They consist largely of earth-walls surrounding enclosures, within

Fig. 19.—Village of the Stone Grave People.

which are pyramidal, domiciliary and burial mounds, all of which furnish proofs of long residence The custom of building stone graves and depositing relics with the dead was common here. Stone graves prevailed in many localities—in Illinois, Southern Indiana, Ohio and Northern Georgia—but were especially characteristic of this region. See Fig. 19.

(7.) There is a district adjoining the one just described, which contains mounds and earth-works somewhat similar. The region is generally swampy, as the rivers here often overflow their banks and cover the whole country with floods. The Mound-builders dwelt here in great numbers, and built their villages on the sand ridges interspersed between the overflowed lands, and made their way out as best they could. Their villages, however, were large and numerous and showed permanent residence. The peculiarity of the earth-works was that the walls surrounded enclosures, within which were pyramids, conical mounds and many lodge circles. We may call it the district of lodge circles. In some of the conical mounds there have been found large

quantities of pottery, and so the name of pottery-makers might be ascribed to the people. This pottery resembles that found in the stone graves and near the Cahokia mound, but is regarded as distinctive of this region. We may say that the district has been occupied by the Arkansas, the Kansas and Pani Indians, branches of the Dakotas, but it is unknown to what class the pottery-makers belonged.

(8.) Intervening between these two district, and extending through the Gulf States, we find a series of large pyramidal mounds, of which Cahokia mound, near St. Louis, is a specimen. This region may have been occupied by the Natchez, a remarkable people who were known to have been sun-worshipers and pyramid-builders. Some of the largest groups of pyramids are located near the City of Natchez, the place which derived its name from the tribe. It is a region, however, where the Chickasaws and Choctaws, branches of the Muscogees, formerly dwelt. This leaves the question as to who the builders of these pyramids were, still in uncertainty.

The pyramids are supposed to have been occupied by the chiefs, and furnished foundations for the great houses or official residences. They are situated, however, in the midst of land subject to overflow, and have been explained by some as being places of refuge for the people in time of high water.

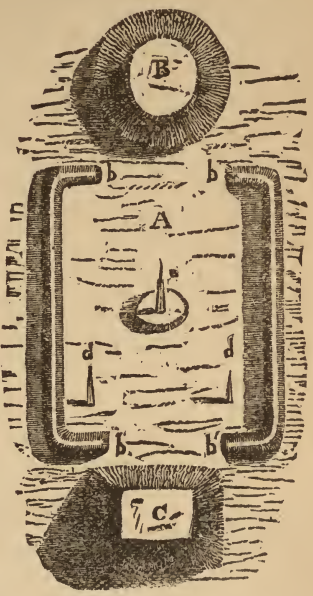


Fig. 20.—Chunky Yard.

In the eastern part of this district there is a class of works which differs from those in the western. Here we see the elevated platform, and along with it the circular mound for the temples, and between them oftentimes the chunky yard and public square, the usual accompaniments of a native village. See Fig. 20. The race distinction is manifest in this form of structure, and nowhere else do we find it. The tribes who dwelt in this region were the Creeks, a branch of the Muscogees. These works have been ascribed to the Cherokees, who were located in the mountains. The Cherokees, however, maintain that they migrated to the region and took possession of the works which the Creeks and Muscogees had erected. They also maintain that their ancestors were Cave-dwellers, and describe the caves from which they issued. Dr. Cyrus Thomas holds that the Shawnees were in this regign in pre-Columbian times, and refers to the evidence furnished by

the relics found in the stone graves, and especially those found in the Etowah mound in Georgia, as proof. The Shawnees were, however, late-comers, belonging to the Algonkin stock, a stock marked by narrow skulls. They were preceded by the Muscogee stock—a people with broad skulls. It was a tradition among the Muscogees that they migrated from the west and found the country occupied before them, while their ancestors issued from a sloping hill at the command of their divinity, who stamped upon its summit, and erected the pole, which led them through their wanderings. In reference to the Gulf States Col. C. C. Jones, who has written a book upon the antiquity of the Southern Indians, says that the tribes were only occupying works which had been erected by a preceding and different class of people. "Even upon a cursory examination of the groups of mounds with their attendent ditches, earth walls, fish preserves, it is difficult to resist the impression that they are the remains of a people more patient of labor, and in some respects superior to the nomadic tribes who, within the memory of the whites, cling around and devote to secondary uses these long-deserted monuments." This remark was made after diligent study of the writings left by the historian of De Soto's expedition and of Adair and Bartram and comparing them with the evidence given by the monuments themselves.

ANCIENT WORKS AT MARIETTA.

This plate representing the works at Marietta is from "Harris's Travels." The cut was made before any of the works were destroyed, and so gives a view of the "crescents" which originally surrounded the high conical mound. The "double square" and "platform" are the same as in the Frontispiece, but the "covered way" is not portrayed. The view is from the southwest. It shows the height of the terrace on which the "covered way" and other "works" were situated. The distance from the river will be seen from the Frontispiece, but the location relative to the topography will be understood by examining both pictures.

CHAPTER III.

THE MOUND-BUILDERS AND THE MASTODON.

One of the first questions asked of the arohæologists concerning the Mound-builders is, What was their probable age? The question is a very natural one, but, in the form generally given, exhibits a misunderstanding of the general subject. It implies that the Mound-builders were all one people, and that they spread over the continent at a particular and definite time. We have already shown that there were many classes of Mound-builders, and that there were different periods of time—a succession of population being one of the plainest facts brought out by archæological investigation. The answer to the question is to be secured by the study of the Mound-builders as they appeared at different dates in the mound-building period. The age of the Mound-builders includes not one specific date, but covers many epochs.

We maintain that there was a Mound-builders' age in this country, and that it is as distinctive as was the neolithic age in Europe. The neolithic age was founded on the discovery of a certain class of relics, relics which had a certain degree of polish and finish about them; the material of the relics making the age distinctive. The bronze age was founded on the discovery of bronze relics in the midst of neolithic relics, the material and finish of the relics making them distinctive So the Mound-builders' age is based on the prevalence of the earth heaps which contain within them the relics of a prehistoric race. The character of the relics as well as the material of which the works were composed, makes the Mound-builders' age distinctive.

I. As to the naming of these periods there is some uncertainty, but the following facts may help us to appreciate it. In Europe the paleolithic age continued after the close of the glacial period. It began with the gravel beds, and embraced all the relics found in those beds, extended through the period of the cave-dwelling, embraced nearly all the cave contents; it reached up to the time of the kitchen middens, and embraced the relics found in the lower layers. It is divided into various epochs, which are named differently. The English named them after the animals associated with the relics, into the epochs of the cave-bear, mammoth and reindeer. The French named them after the caves in which they were found, making the name of the caves descriptive of the relics.

The Chellean relics are more easily distinguished than others, and are recognized by some as belonging to a distinct period, a period when the mammoth. rhinoceros and cave-bear prevailed in Europe. These stand alone and belong to an earlier geological period than the rest of the Cave-dwellers' relics. A number of objects discovered at Moustier, at Solutre and at La Madeleine mark a second and a third period of the paleolithic age.

In America the paleolithic age preceded the neolithic, as in Europe. It may be divided into three epochs: 1. The pre-glacial, the epoch in which the relics were deposited in loess. 2. The

Scale 34 feet to the inch.

Fig. 1.—Elephant Effigy.

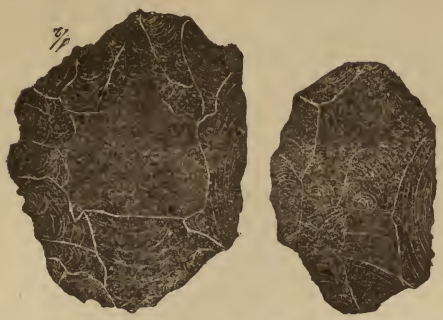
glacial, an epoch in which the relics were deposited in gravel. 3. The Champlain, an epoch in which the relics were deposited upon the summit of the hills and above the glacial gravels.

The American archæologists name them after the character of the gravels in which they are found, as well as the character of the relics. It may be said that the subdivision of the paleolithic age in America has not been fully established. There seems to be some uncertainty as to the French and English divisions.

---

*Evidence is increasing to show that the paleolithic people continued after the glacial period, as flint relics which are chipped so as to make tools of various kinds, have been found in the beds of the water courses in Iowa and elsewhere. These perhaps should be assigned to the Champlain epoch. They were followed by the Cave-dwellers, who left their relics and remains in the shelter caves of Ohio, Kentucky and Tennessee, and other localities. Bone implements were common among this people, but not many metal relics. The shell heaps of Florida and Maine may have belonged to the people who followed the Cave-dwellers. The people who left the fire beds in the bottom lands of Ohio at various depths below the surface followed the Cave-dwellers. The Mound-builders came in about this time. They were a neolithic people, and were probably immigrants from some other country. Four lines of migration have been recognized among the Mound-builders: One from the northeast to the southwest; another from the northwest to the southeast; a third from the southwest to the northeast; a fourth from the southeast, north and west.

Naming the periods after the animals is suitable to America, though the animals would be different from those in Europe. In Europe the cave-bear, mastodon and the reindeer made three epochs. In America the megatherium found in Brazil, the mastodon found in the gravel beds and peat-bogs, and the buffalo, now almost extinct, mark three different epochs. In Europe, the paleolithic age was contained within the quartenary period, and came to an end before the beginning of the present geologic period. It was followed by the neolithic age. The characteristic of this age was that polished stone relics, such as hatchets,



*Figs. 2 and 3.—Obsidian Arrows from Idaho.**

Figs. 4, 5, 6 and 7.—Shell Beads from Mounds.

celts and finely-chipped arrows, spear-heads and a fine class of pottery abounded. Another characteristic was that mounds were common. Shell heaps marked its beginning, chambered mounds its end. The bronze age followed the stone age. This began with the lake-dwellings and continued through the time of the rude stone monuments, and up to the historic age. Bronze was the material which characterized the age, a material which was not made in Europe, but was brought from Asia and was re-cast. No less than fifty-seven foundries of bronze have been discovered in France and a large number in Italy; one at Bologna having no less than 14,000 pieces broken and ready for casting. The hatchets were cast in molds, with wings for holding the handle, and many of them with sockets and eyes by which they could be lashed to

Fig. 8.—Bone Needles.

*Prof. E. L. Berthoud discovered a number of obsidian relics on the Upper Madison Fork in Idaho. He says: "I have gathered some very characteristic obsidian implements on Lake Henry and Snake River, which I transmit. I have always understood that the presence of obsidian relics in Kansas, Colorado, Nebraska, Wyoming and Utah was due to the probable intercourse of the Aztec races with the more northern tribes. I am now satisfied that they were derived from the Yellowstone and Snake Rivers, rather than from New and Old Mexico. In the National Park Prof. Hayden found a gorge in the mountains which was almost entirely formed of volcanic glass; they have aptly named it 'Obsidian Canon'."—*Proceedings of Davenport Academy, Vol. III, Part II.*

LIBRARY

the handle. The neolithic age in America began with the close of the paleolithic and ended with the historic period. The polished stone relics found in the auriferous gravels of California, such as steatite ollas, mortars and pestles, and those found under the lava beds, belong to this age. They constitute one class of neolithic relics, and may be assigned to one epoch of the neolithic age.

We maintain that the Mound-builders in America represented one epoch, perhaps the earliest of the neolithic age. This age began some time after the glacial period and ended about the time of the advent of the white man, but embraced about all the time which the neolithic age occupied in Europe. Nearly all the relics found in the Mississippi Valley, such as arrow-heads, spear-heads, knives, polished stone axes, celts, carved stone pipes, many specimens of pottery, the shell gorgets and the drinking vessels, the pieces of copper, ornamented and unornamented, the mica plates, many of the bone implements, the needles and awls, the silver ornaments, and the few specimens of gold* and meteoric iron, belong to the Mound-builders. Neolithic relics are found in the mounds; though some of them, of the ruder class, are found in the fire beds and shelter-caves. Specimens of the neolithic age are picked up indiscriminately upon the surface. The aborigines of America were in this age. The cliff-dwellings and pueblos must be assigned to this age. They constitute a second division, the Mound-builders being assigned to the first. The relics of the Cliff-dwellers are not much in advance of those of the Mound-builders, but their houses show an advanced stage of architecture. A third division of the neolithic age may be recognized among the civilized races of Mexico and Central America, though these are by some archæologists ascribed to the bronze age. It appears that the division of the neolithic age in America corresponded to that in Europe; the Mound-builders, Cliff-dwellers and the civilized races constitute the three parts of that age, as the barrows, the lake-dwellings and the rude stone monuments did in Europe. It may be that two preceding periods should be assigned to the caves and fire beds, which corresponded to the caves and kitchen middens.†

Fig. 9.—Pottery Vase.

*Dr. Charles Rau describes a gold ornament found in a mound in Florida, representing the bill of an ivory billed woodpecker, the material of which was made during the second period of Spanish supremacy. It was taken from the center of the mound, and furnishes evidence that Mound-building was continued after the occupation by Europeans. Prof. Jeffries Wyman has, however, spoken of the remains of the great auk in the shell mounds of Maine and the absence of any article which was derived from the white man. See American Naturalist, Vol. I.

†Some of the shelter caves and the terraces of Ohio seem to have been occupied by

II. The part which the Mound-builders performed in connection with the neolithic age. The Mound-builders, in a technical sense, are to be confined to the Mississippi Valley. There are, to be sure, many mounds and earth-works on the northwest coast, others in Utah, and still others scattered among the civilized races in Mexico, but the Mound-builders as such were the inhabitants of this valley. We shall see the extent of their territory if we take the mounds of the Red River Valley as one stream and follow the line across the different districts until we reach the mounds of Florida. This is the length of their territory north and south; the breadth could be indicated by the Allegheny mountains upon the east and the foot-hills of the Rocky mountains upon the west, for all this range of territory

Fig. 10.—Hoes from Tennessee.

belonged to the Mound-builders. Within this territory we have the copper mines of Lake Superior,[1] the salt mines of Illinois and Kentucky,[2] the garden beds of Michigan,[3] the pipe-stone quarries of Minnesota,[4] the extensive potteries of Missouri,[5] the stone graves of Illinois,[6] the work-shops, the stone cairns, the stone walls, the ancient roadways, and the old walled towns of Georgia,[7] the hut rings of Arkansas,[8] the shelter-caves of Tennessee and Ohio,[9] the mica mines in South Carolina,[10] the quarries in Flint Ridge in Ohio,[11] the ancient hearths of Ohio,[12] the bone beds[13] and alabaster caves in Indiana,[14] the shell-heaps of Florida,[15] oil wells and ancient mines, and the rock inscriptions[16] which are scattered over the territory everywhere.

We ascribe all of these to the Mound-builders and conclude that they were worked by this people, for the relics from the

---

a rude people, whose remains are buried in the debris, for layers of ashes have been found having great depths. The fire beds and stone graves have been found at various depths beneath the river bottoms.—*Miami Gazette, Jan. 20, 1892.* See Smithsonian Report, 1874, R. S. Robinson; Peabody Museum, 8th Report, F. W. Putnam. The Mammoth cave and other deep caves have yielded mummies and other remains which may have belonged to this antecedent period.—*Collins' History of Kentucky.*

The great auk, Prof. Wyman says, survived until after the arrival of the Europeans. Pottery is poorly represented; ornamentation is of the rudest kind; the shell heaps yielded few articles of stone; implements of stone are common in Florida. A domesticated animal was found with eatables.

1 See Foster's Prehistoric Races, p. 265. 2 Ibid., p. 249. 3 See American Antiquarian, Vols. I and VII 4 Geol. Rep. of Minnesota, Vol. I, pp. 151 and 555. 5 See Prof. Swallow's article, Peabody Museum, 8th rep., and Arch. of Mo., 1880. 6 See Sm. Rep. 1866. 7 See C. C, Jones and James Mooney's 9th An. Rep. of Eth. Bu., also Am. Anthro., Vol. II, p. 241. See Am. Ant., Vol. XIII No. 6., H. S. Halbert. 8 See Palmer in Eth. Bu., 9th An. Rep. of A. A.,Vol. III, p. 271, in Iowa. 9 See Robinsin's article, Sm. Rep., 1874, p. 367; A. A., Vol. II, p. 203. 10 See Report by James Mooney, 9th An. Eth. Bu. Rep.; 12th Rep. Pea. Museum. 11 SeeAmerican Antiquarian, Vol. II, p. 95. 12 Ibid., Vol. VI, p. 101. 13 Ibid., Vol. VIII, p, 65. 14 Ibid., Vol. III. 15 Ibid., Vol. II, p. 257. 16 Ibid., Vol. XI, J. S. Newberry, p. 165.

mines and quarries are found in the mounds. Besides these relics we find others which were received by aboriginal trade; obsidian knives and arrows (see Figs. 2 and 3) from Idaho; jade axes from an unknown source, carved specimens which seem to have come from Mexico; shells* and wampum (Figs. 4 to 7) from the gulf of Mexico; specimens of art which show connection with the northwest coast and carved pipes which show familiarity with animals and birds from the central provinces. The Mound-builders were the chief representatives of the neolithic age, vying with the Cliff-dwellers in a grade of civilization, but having a much more varied culture than they. Their territory extended over more land than any other class of people known to the prehistoric age, and their art presents more variety than any other class.

The cuts represent the character of the relics taken from the mounds. The pottery vase (Fig. 9) is from a mound in Michigan and shows the high stage of art reached there. The hoes and sickles (Figs. 10 and 11) are from mounds in Tennessee and show the agricultural character of the people. The banner stone and silver ornament (Figs. 12, 13 and 14) are from mounds in Florida. A. E. Douglass thinks the silver ornament was modern. We place these cuts alongside of the elephant pipes and other relics to show the length of the age of the Mound-builders. Some of them were evidently quite ancient and others were very modern.

Fig. 11.—Sickles from Tennessee.

III. As to the antiquity of the Mound-builders, we may say that dates are always difficult to fix. We can not give them definitely. We imagine that the Mound-builders were the first people who occupied the territory after the close of the glacial period, that they followed hard on to the paleolithic people, that no other race intervened. This is, however, a matter of conjecture. Our reasons for holding this are as follows: 1. The appearance of the mastodon and mammoth. We contend that

*W. H. Pratt has described worked shells from Calhoun County, Illinois, also shell beads from mounds at Albany (Figs. 4, 5 and 6), and wampum from mounds in Florida (Fig. 7), which he thinks were used as currency, giving the idea that wampum existed in the Mound-builders' time; others think wampum was introduced by the white man. The value of the beads was owing more to the work placed upon them than to the rarity of the shells. Copper beads found in the mounds at Davenport contained the cord upon which they were strung. This would indicate that the beads were somewhat recent.

these animals and the Mound-builders were contemporaneous. The only age which intervened between the glacial period and the Mound-builder's period is to be called the mastodon's age. We are ready to acknowledge that a long time must have elapsed between the glacial age and the Mound-builders, but in the absence of proof that any other inhabitants occupied the territory we ascribe the time or period to the mastodon and mammoth. The paleolithic people may indeed have survived the glacial period and been also contemporaneous with the mastodon, the real age of the mammoth and mastodon covering the whole of the paleolithic age and overlapping the Mound-builders, the first being the age in which the mastodon was numerous. Certain writers have denied this, and have argued that so long an interval of time elapsed between the Mound-builders and the close of the glacial age that the mastodon disappeared altogether, that the buffalo was the animal which was distinctive of the Mound-builder's age, and the mastodon was the animal distinctive of the paleolithic age. Their arguments are as follows: The forests which have spread over the northern half of the Mound-builders' territory are in places very dense. During the glacial period this region was covered by a sea of ice, the ground must needs settle and be covered with alluvial before the forests would grow. The forests could only gradually appear, the distribution of seeds and the springing up of the saplings being a slow process. Another argument is taken from analogy. In Europe the period of the gravel beds was supposed to be the same as the glacial period and marked the beginning of the paleolithic age. There were, however, between the gravel beds and the age of the barrows three or four different epochs—the cave-dwellers, the people of the kitchen middens and the lake-dwellers—the progress having been gradual between the periods.* In

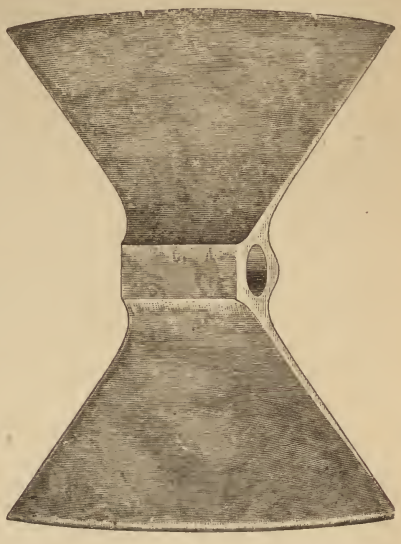


Fig. 12.—Banner Stoue from Florida.

*Col. Whittlesey speak of three periods: The early drift period which belonged to primitive man; the period of the Mound-builders, whose antipuity is from four to five thousand years, with slight evidence of an intervening race between the Mound-builders and primitive man; and the period of the red man. The evidence of man more ancient than the Mound-builders he finds in the fluviatile deposits, which were above the fire beds on the Ohio river, to the depth of twelve or fifteen feet. The same evidence is given by Prof. Putnam.—*Article read before the American Association in Chicago, 1868.*

America the change was more sudden, for the tokens which are found in the auriferous gravels are much more advanced than any found in the gravel beds of Europe. They correspond to the relics of the lake-dwellers and the barrows. The Mound-builders' relics are also much more advanced than those of the gravel beds in the same territory, and the supposition is that there must have been either an intervening period in which mound-building was not practiced, or that there was an immigration of the Mound-builders into this territory from some other part. We acknowledge that there are some facts which favor this supposition or idea that there were inhabitants intervening between the rude paleolithic people and advanced Mound-builders who corresponded to the people of the kitchen middens and to the early lake-dwellers. Possibly we shall find that the fire beds of the interior and the kitchen middens of the sea coast were deposited during this period, and the divisions of time may be identified by these tokens. We maintain that the close of the glacial period was not so sudden as some imagine. There may have been a littoral class of fishermen who were the occupants before the close of this period. They followed after the ice as it disappeared, leaving their shell heaps on the coast and their fire beds in the interior. In favor of this we may mention the fact that the tooth of a polar bear and the bones of the auk, both of which are animals that occupy the arctic regions and inhabit the ice fields, have been found in a shell heap on the coast of Maine, thus proving that there were inhabitants when the ice reached as far south as that point. The mastodon evidently inhabited the country long before the glacial period. It survived that period and may have existed during the time the land was becoming settled

*Fig. 13.—Silver Ornament.**

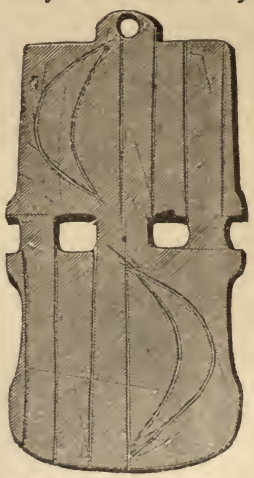


Fig. 14.—Silver Ornament.

*Mr. Geo. F. Kunz has described a gold object resembling a shield, taken from a mound in Florida, an ear disc of silver, a triangular silver ornament, a flat bar of silver, all taken from mounds in Florida. Mr. Douglas has spoken of circular plates from Halifax river; Col. C. C. Jones of silver beads, not European, from Etowah valley. Mr. Douglas thinks that the silver specimens were taken from wrecked vessels after the discovery, and refers to a specimen found on an island near Florida, which has the marks of modern wormanship upon it. The etchings of the cross orbis mundi and the heart may be attributed to the Spanish priests, though the moons on the opposite side were native symbols. He says that the four ornaments described by Mr. Kunz were associated with European manufacture. See American Antiquarian, Vol. IX, page 219.

and until it was covered with forests and became inhabited by wild tribes. During this time the peat beds and the swamps were their favorite resorts; many of them became mired in the swamps and were attacked by the natives. These natives were acquainted with fire, and used rude stone implements—arrows and spear heads. As the mastodon retreated northward the hunters also migrated and became the denizens of the forests of the northern districts. This accounts for the scarcity of images of the elephant and mastodon among the southern Mound-builders, and for the images of the same animals among the northern Mound-builders.

We have mentioned the find of Dr. Koch of the mastodon in the Gasconade swamp of Missouri. This was an important find. Dr. Koch says there were remains of fire-stones and arrow-heads near the bones, showing that the animal had been hunted by the

*Fig. 15.—Nondescript Animal from the Mounds.**

people then living. Dr. Koch made the statement that this animal was capable of feeding itself with its fore-feet, after the manner of the beaver or otter. This statement was doubted at the time, and seemed to cast discredit upon the entire find. It now proves very important. In a late number of the *Scientific American* is a description of the Newberg mastodon, in which this very peculiarity is noticed.† The writer says: "The most important comparison is in the aspect of the fore-limbs. In the elephant the fore-limbs are columnar, as are the hind-limbs. In the mastodon there is a decided aspect, more or less, of prehensile capacity (as it were), that is, the latter have the fore-feet approaching the plantigrade in aspect, and were correspondingly adapted for pronation. Of course this is slight, but it shows the difference in probable habits. The fore-limbs of the mastodon with such development, we should expect, would be able to be thrown over the low foliage or brush-wood, and a crushing effected by the somewhat expanded manus. No such movement could be effected by elephas. As much as we naturally compare

*The animal contained in the cut, with a bill resembling a duck, was found by a farmer while plowing over Mound No 3. It is a natural sandstone concretion fastened upon a thin piece of light-brown flint. The eyes are of quartz, fastened on with some kind of cement. They give a fierce look to the creature.

†See Scientific American, January, 1892, article by Dr. J. B. Holden.

the two great creatures, and especially as both have similar nasal development, a near view of both together shows many differences in form.."

2. The survival of the mastodon. J.B. Holden says: "In nearly every State west of New England portions of this creature have been disinterred. And every year there are several found, more or less in a state of complete preservation. The circumstance of several skeletons having about them evidence of man's work is extremely interesting.* On one account, it brings the date, though greatly indefinite, to man's existence. We are therefore able to say man and mastodon are contemporaneous. We have not determined what sort of man made those stone arrow-heads which struck the life out from the great carcasses and lie among their remains. We have not a knowledge of what sort of man made the charcoal which was found lying among the partly burned bones of a mastodon, but we do know that some man made the arrow-heads. And we know also that no other than man is capable of making charcoal, or even to make fire by which it is formed."

Fig. 16.—Copper Axe.

Prof. Barton, of the University of Pennsylvania, discovered the bones of a mastodon at a depth of six feet, and in the stomach of the animal he found a mass of vegetable matter, composed of leaves and branches, among which was a rush, now common in Virginia. Winchell says: "The ancient lakelets of Michigan enclose numerous remains of the mastodon and mammoth, but they are sometimes so near the surface that one could believe them to have been buried within 500 years. The mastodon found near Tecumseh lay but two feet and a half beneath the surface. The Adrian mastodon was buried about three feet. The Newberg (New York) mastodon just beneath the soil in a small pool of water."

Prof. Samuel Lockwood, of Freehold, New Jersey, has spoken of the life range of the mastodon. He has shown that this animal was living at a period well up into the recent geologic time. It came in with the great extinct fossil-beaver, which it outlived, and became contemporary with the modern beaver. It lived to be contemporary with the American aboriginal men and probably melted away before the presence of man. Prof. Lockwood dis-

*The two pipes which have been found and which are now in the Davenport Academy, may represent the two classes of animals; the one Mastodon Giganteus, the Elephas Primigenius, if so, they are all valuable finds.

covered a mastodon in a beat bog, near by a fossil-beaver dam, in such circumstances as led him to suspect that the mastodon had been actually buried by the beavers.*

Prof. Shaler says: "Almost any swampy bit of ground in Ohio or Kentucky contains traces of the mammoth or mastodon. The fragments of wood which one finds beneath their bones seem to be of the common species of existing trees, and the reeds and other swamp-plants which are embedded with their remains are apparently the same as those which now spring in the soil. They fed upon a vegetation not materially different from that now existing in the region.† Prof. Hall says: "Of the very recent existence of this animal there seems to be no doubt. The marl beds and muck swamps, where these remains occur, are the most recent of all superficial accumulations.

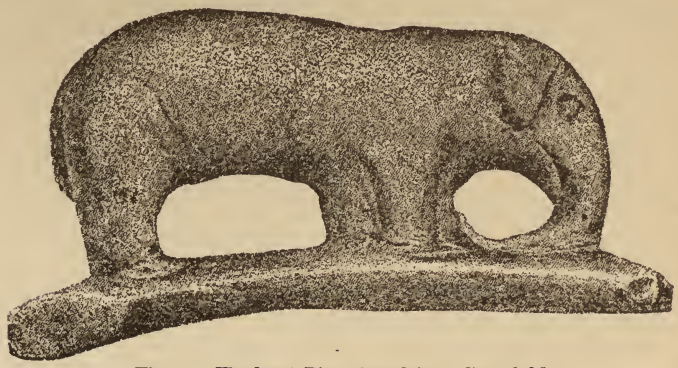


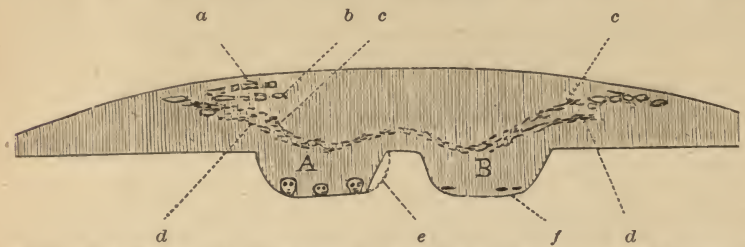
Fig. 17.—Elephant Pipe, found in a Corn-field.

Dr. John Collet says that in the summer of 1880 an almost complete skeleton of a mastodon was found in Iroquois County, Illinois, which goes far to settle definitely that it was a recent animal and fed upon the vegetation which prevails to-day. The tusks were nine feet long, twenty-two inches in circumference, and weighed 175 pounds; the lower jaw was nearly fifteen feet long; the teeth weighed four or five pounds; each of the leg bones measured five feet and a half, indicating that the animal was eleven feet high. On inspecting the remains closely, a mass of fibrous matter was found filling the place of the animal's stomach, which proved to be a crushed mass of herbs and grasses similar to those which still grow in the vicinity. A skeleton was found by excavating the canal, embedded in the peat, near Covington, Fountain County, Indiana. When the larger bones were split open the marrow was utilized by the bog-cutters to grease their boots. Chunks of sperm-like substance occupied the place of the kidney fat of the monster.‡

*See Proceedings A. A. A. A., 31st meeting, Montreal, 1882, Part II, p. 265.
†See Amer. Nat., pp. 605-7. Also, Epoch of the Mammoth, by J. C. Southall, p. 103
‡See Geological Report of Indiana, 1880, p. 384.

These discoveries convince us that the mastodon survived the glacial period, and may have been contemporaneous with the Mound-builders.

IV. Were the Mound-builders contemporaneous with the mastodon? This is a disputed point, and considerable feeling has been raised in the contention. There have been reports of the images of the mastodon and mammoth; but the genuineness of the finds has been disputed, and is still with some a matter of doubt. Were we to discriminate between these, however, accepting some as genuine, others as doubtful, we might reach a safe conclusion. The history of these discoveries is about as follows: In 1874. Mr. Jared Warner found upon the bottom-land of the Mississippi, near Wyalusing, an effigy which was called an elephant. He, in company with a number of gentlemen, measured and platted it, and sent a drawing of it to the Smithsonian Institute.* Mr. Warner says: "It has been known here for the last



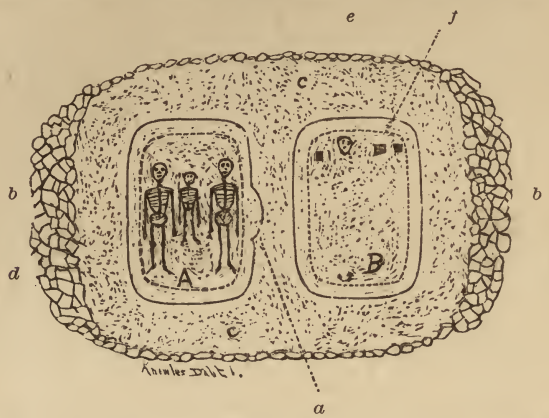
SECTION OF MOUND.—A, first grave; B, second grave; *a*, limestone one foot below the surface; *b*, human remains, probably Indians; *c*, upper shell bed; *d*, lower shell bed; *e*, cavity on north side of grave A; *f*, position of tablets.

Fig. 18.—Section of Mound.

twenty-five years as the elephant mound." "The head is large, and the proportion of the whole so symmetrical that the mound well deserves the name. The mound was in a shallow valley between two sandy ridges, and was only about eight feet above high water." There are many mounds in this section of country in the shape of birds, bears, deer and foxes. We would say that the effigy of the bear, which is very common here, and which was the totem of the clan formerly dwelling here, has exactly the same shape as the so-called elephant, but is not so large and lacks the proboscis. The projection at the nose called the proboscis is not really one, but is the result of the washing of the soil. It was a mere prolongation of the head, had no curve, did not even reach so far as the feet, and can be called a proboscis only by a stretch of imagination. There is no evidence whatever that it was intended to represent a proboscis. The size of this mastodon is as follows: length 135 feet, from hind-feet to back sixty feet, from fore-feet to back sixty-six feet, from end of snout

*The report was published in 1875. The gentlemen who accompanied Mr. Warner were Mr. J. C. Orr and Mr. J. C. Scott.

to neck or throat thirty-one feet, from end of snout to fore-legs thirty-nine feet, between fore-legs and hind-legs fifty-one feet, across the body thirty-six feet. These measurements make the proboscis and snout combined about the same length as the fore-legs; the proboscis alone about half the length of the fore-legs; whereas, had it been a genuine imitation it should have been nearly double the length. The writer has visited the effigy two or three times, but found it more and more obliterated. No other effigy of the elephant could be discovered in the vicinity, and no other has since been discovered. Compare Figs. 1 and 17.



PLAN OF MOUND.—A, first grave; B, second grave; *a*, cavity on north side of grave A; *b*, layer of stones at edge of shell bed; *c*, loam between the graves; *d*, skeletons in first grave; *e*, skeletons in second grave; *f*, position of tablet.

Fig. 19—Plan of Mound.

The history of the second discovery is about as follows. In the year 1874, the Rev. Mr. Gass was engaged in exploring mounds. He came upon a group of mounds situated about a mile below the city of Davenport (see map), on the bank of the Mississippi river, about 250 feet from it and from eight to twelve feet above low water mark, which consisted of ten or twelve mounds. Several of these were excavated, and found to contain a large number of relics, such as sea shells, copper axes, pipes, hemispheres of copper, arrow heads, pieces of galena, pieces of pottery, pieces of mica, stone knives, copper implements shaped like a spool, rondells, showing that trepaning had been practiced. Many of the axes had been wrapped with coarse cloth, which had been preserved by the copper Fig. 16. The pipes were all of Mound-builders' pattern; some of them were carved with effigies of birds and animals. One bird has eyes of copper, another has eyes of pearl, showing much delicacy of manipulation and skill in carving. These relics excited much interest and were put on exhibition before the American Association for the Advancement of Science, at Detroit, in 1875. About

twenty copper pipes were reported at that time, and eleven copper awls and a large number of bones. They were said to have been found at various depths, some of them near skeletons, some near altars, some in ashes, though they were all from the same group on the Cook farm. The mounds on the Cook farm were the most of them stratified. All of them contained bodies and ashes; two or three of them contained altars or round heaps of stone, but with no relics upon the altars. Mound No. 3 was the one in which the tablets were discovered. This was a low mound, about three feet high and sixty feet in diameter. It was a double mound and contained two graves parallel to each other, three or four feet apart, six feet wide and nine or ten feet long.

In making the excavation of the first grave the party found, near the surface, two human skeletons, which were modern Indians, and with them modern relics; such as fire steel, a common clay pipe, a number of glass beads, a silver earring. Below these was a layer of river shells and a large quantity of ashes, which

*Fig. 20.—Hieroglyphics on Tablets.**

extended two feet below the surface, but which rested upon a stratum of earth twelve inches in depth, under which was a second bed of shells. At the depth of two feet below the second shell bed, 5½ feet below the summit, three skeletons were discovered, lying in a horizontal position at the bottom. With the skeletons were five copper axes, all of which had been wrapped in cloth, a number of small red stones, arranged in the form of a star, two carved stone pipes, several bear's teeth, two pieces of galena, one large broken pot, a lump of yellow ochre, one arrow-head. A child's skeleton was discovered between the two large ones, near which was a large number of copper beads.

The second grave was not opened until the year 1877, about two years after the first. Mr. Gass was attended by a party of seven men, two of whom were students. They found, near the surface, modern relics—a few glass beads and fragments of a brass ring; also a layer of shells twelve or fifteen inches thick; beneath this a second layer five or six inches thick; beneath the second layer a stratum of loose black soil or vegetable mould, eighteen or twenty inches thick, and in the mould fragments of human bones. At the bottom they discovered the two inscribed tablets, lying close together on the hard clay, five and one-half

*The word T O W N will be recognized in the cut, which represents the characters on the left side of the upper arch in their regular order. The first to call attention to this word was Dr. Farquharson, the President of this Association, though at the time he thought that the finding the letters was a pure fancy. The word has often been noticed in the tablet, and has always worked against its genuineness. It has been intimated that the Mormons planted these tablets. The recent find at Mendon, Illinois, of a brass plate or sounding board of a musical instrument, with similar characters, near a house once occupied by Mormons confirms this conjecture

feet below the surface of the mound; both were encircled by a single row of lime stones. About two and one-half feet east were a copper axe, a few copper beads, fragments of pottery, a piece of mica and a number of bones. These were found at a subsequent exploration, not at the same time as the tablets.

The large tablet is twelve inches long, from eight to ten inche wide, and was made of dark coal slate. Fig. 22. The smaller tablet was about square, seven inches in length, and had holes bored in the upper corners, and is called the calendar stone, as it contained twelve signs with three concentric circles, though the signs do not in the least resemble the Mexican or Maya calendars. The larger tablet contained a picture on either side, one representing a cremation scene, the other a hunting scene. The cremation scene "suggests human sacrifices." A number of bodies are represented as lying upon the back, and the fire is burning upon the summit of the mound, while the so-called Mound-builders are gathered in a ring around the mound. Above

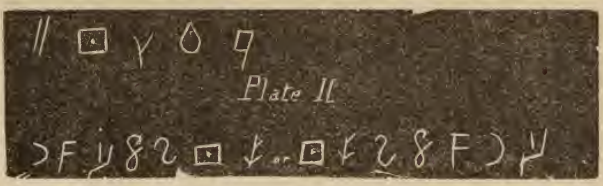


Fig. 21.—Characters Duplicated on the Sandstone Tablet.

the cremation scene is an arch formed by three crescent lines, representing the horizon, and in the crescent and above it are hieroglyphics, some of which resemble the common figures and numbers, and the various letters of the alphabet; there are ninty-eight figures, twenty-four in one, twenty in the other, and fifty-four above the lines. The peculiar features of this picture are these: A rude class of Mound-builders are practicing human sacrifice, while the images of the sun and moon are both in the sky, one containing a face, the other circles and rays. Above these is the arch of the heavens, with Roman numerals and Arabic figures scattered through and above it. The figure eight is repeated three times, the letter O repeated seven times. With these familiar characters are others which resemble letters of ancient alphabets, either Phœnician or Hebrew, and only a few characters such as the natives generally used.

The hunting scene is the one which is supposed to contain the mastodon. In this picture there is a large tree which occupies the foreground, beneath the tree are animals, human beings and fishes scattered indiscriminately about, a few skeletons of trees in the back ground. One of the human figures has a hat on, which resembles a modern hat, for it has a rim. "Of the animal kingdom thirty individuals are represented, divided as follows, viz: Man, eight: bison, four; deer, four; birds, three; hares,

ESE LIBRARY OF THE SITY

three; big horn or Rocky Mountain goat, one; fish, one; prairie wolf, one; nondescript animals, three. Of these latter one defies recognition, but the other two, apparently of the same species, are the most interesting figures of the whole group. These animals are supposed by different critics to represent the moose, tapers or mastodons." The trunk and tusks are omitted from this animal, and even the shape hardly resembles the elephant, certainly not enough to prove that the Mound-builders were contemporaneous with the mastodon.*

The third discovery is the one the most relied upon. This discovery was also made by the Rev. Mr. Gass, in the spring of 1880, several years after the discovery of the tablets. Mr. Gass was accompanied by Rev. Mr. Blcomer. A group of ten mounds, arranged in irregular rows, was situated along the bluffs overlooking the Mississippi bottoms west of Muscatine Slough. The first mound opened proved to be a sacrificial or cremation mound, situated on the extreme edge of a prominent bluff, having ravines on both sides. It was a flat cone, thirty feet in diameter, elevation three feet. Near the surface was a layer of hard clay, eighteen inches thick; below this a layer of burned red clay, as hard as brick, one foot thick; under this a bed of ashes, thirteen inches deep. In the ashes were found a portion of a carved stone pipe, bird form, by Mr. H. Haas; a very small copper axe by Mr. Gass; a carved stone pipe, entire, representing an elephant, which, Mr. Bloomer says, "was first discovered by myself." The other mounds of the group were explored, and contained ashes and bones, but no relics. Mr. Gass makes no report of finding the elephant pipe, but leaves that to Mr. Bloomer. During the same year he discovered, in the mounds in Mercer County, Illinois, several Mound-builders' pipes—one representing a lizard, one a turtle, another a snake coiled around an upright cylinder and covered with some very thin metallic coating. Mounds on the Illlinois side, near Moline, and Copper Creek and Pine Creek, had previously yielded to Mr. Gass carved stone pipes, one of them representing a porcupine, another a howling wolf. The pipes were composed of some dark-colored slate or variety of talc, thus showing that the Mound-builders of the region were in the habit of imitating the animals which they saw, making effigies of them on their pipes. The account of finding this elephant is written in a very straightforward manner; nothing about it shows any intention to deceive.

---

*Another tablet was found by Mr. Charles Harrison in 1878, who is president of the society, in mound No. 11 of the some group. In the mound was a pile of stones two and one-half by three feet in size, which might be called an altar, about three feet below the surface; the slab fourteen inches square, and beneath the slab was a vault, and in the vault was the tablet, with four flint arrows on the tablet; a shell and a quartz crystal. The figures on this tablet were a circle which represented the sun, a crescent representing the moon, and a human figure astride the circle, colored bright ochre red, all of them very rudely drawn. The figure is supposed to represent the sun god. The figure eight and other hieoglyphics are upon this tablet. Above the hieroglyphics was a bird and an animal, and between them a copper axe. This tablet is as curious as the one discovered by Mr. Gass.

The fourth discovery consisted of a carved stone pipe, also in the shape of an elephant or mastodon. This pipe was picked up in a cornfield by a German farmer named Mare, who gave it away and afterwards moved to Kansas. The pipe came into the hands of the Rev. Mr. Gass, was purchased by the Davenport Academy and is now in their museum. Both pipes have the general Mound-builder shape,—a curved base. Both pipes are alike in that they represent the animal with a proboscis, but with no tusks. The reason for this may have been that it was difficult to carve the tusks out of stone; if they had been so carved they were liable to break. They are alike also in representing the eye and ear, mouth, tail, legs and feet of the animal in a very natural way. The main difference between them is that one has the trunk stretched out in front, and the back curved upward, and a heavy body. The other represents the proboscis curved inward, toward the legs; the back is straight and the body slim. Both have the bowl of the pipe between the fore-legs, which are brought out in relief from the cylinder on the sides of the bowl; the hole for smoking is at the rear of the animal. The pipes show much more familiarity with the mastodon than do the effigies. They represent the trunk as nearly twice as long as the fore-legs. These pipes have been discredited by certain writers, especially by Mr. W. H. Henshaw, of the Ethnological Bureau, but they have been defended by Mr. Charles Putnam, the president of the Davenport Academy, and are endorsed by the members of the Academy at the present time.* In favor of the genuineness of the pipes, we

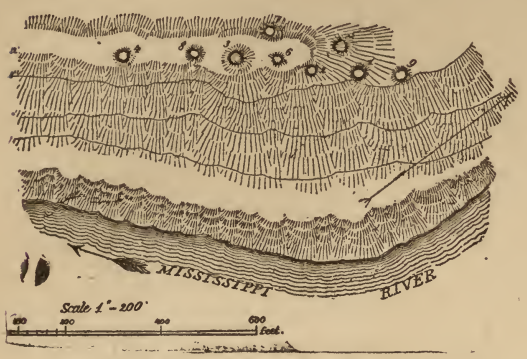


Fig. 22.—Map of the Mounds on the Cook Farm.

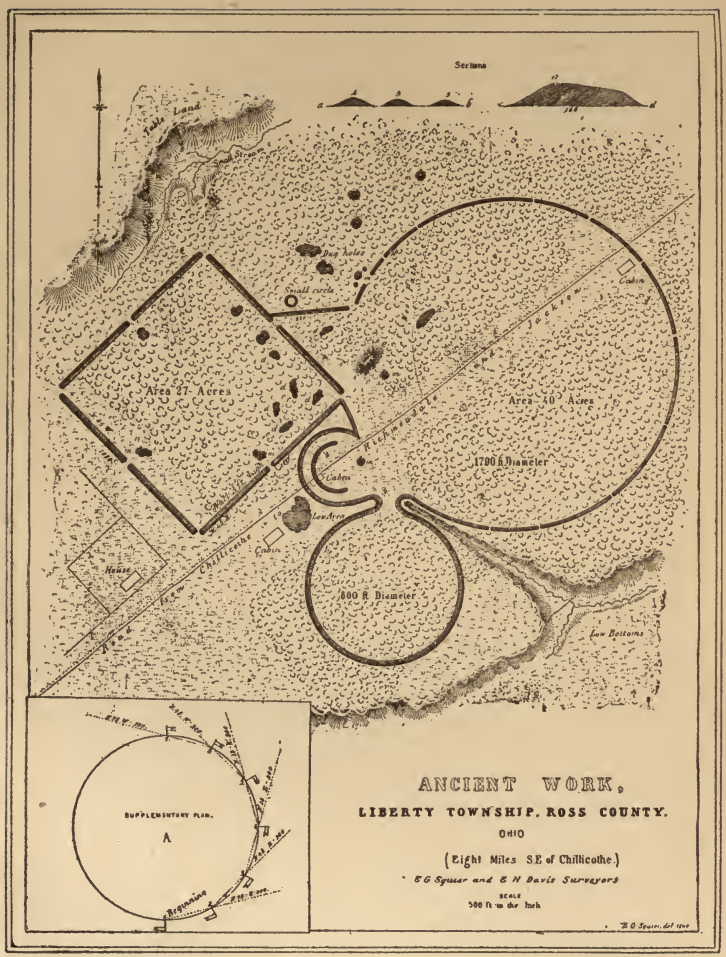
Fig. 23—Altar Containing Sandstone Tablet.

*The evidence in their favor is certainly as reliable as that which has reference to the rude stone relics which have been described in Wright's Ice Age. Several persons were engaged in exploring and giving testimony in reference to the find. In the case of the stone relics taken from the railroad cut, we have the testimony of only one man who was exploring. Mr. H. T. Cresson's testimony is taken, while in this case the testimony of several men seems to be doubted. See "Ice Age," by F. G. Wright. See Discussion of H. T. Cresson's Pile-dwellings, American Antiquarian, Vol. XII, page 184. Discussion over elephant pipes by Mr. W. H. Henshaw. Report of Ethnological Bureau, second annual report, 1880-81. Davenport Academy report Vol. IV, page 256, article by Chas. E. Putnam.

may say that during the same year of the discovery of the elephant pipe, the bones and tusks of an elephant were found in Washington County, Ia., and were reported in the Proceedings of the Davenport Academy. These bones were about six feet below the surface, in the black mud sediment and vegetable mould. They seem to have been quite a recent deposit, and the elephant or mastodon which was buried here may have been the very one which was represented in the pipe.

Fig. 24.—Davenport Tablet.

In this connection we would speak of the location of the mounds which contain the pipes and the tablets. It is the general opinion that those mounds which were erected on the upper terraces were the older, that those upon the lowland were the later. Some writers have maintained that the first class were erected when the water filled the entire valleys and covered the first terrace. If that were the case, then the earlier Mound-builders must have been acquainted with the mastodon and other animals of that class. The mound which contained the elephant pipe was situated upon the bluffs far above the plain. This is significant. It may be that the elephant pipe was deposited in this mound on the bluff at a time when Muscatine Slough and Meredosia Slough were lakes, whose waters flowed near the bluffs —a time when the mastodon was common.



VILLAGE ENCLOSURE ON THE SCIOTO.

INDIAN ENCAMPMENTS AT DETROIT.

CHAPTER IV.

THE MOUND-BUILDERS AND THE INDIANS.

We now come to the question of the relation of the Mound-builders to the modern Indians. There has been a great difference of opinion on this subject, but it would seem as if archæologists were coming nearer to one another and agreeing that the Indians at one time built mounds, but most of them acknowledging that there was a difference between the two classes.

I. The appearance of the buffalo within the bounds of the Mound-builders' territory is the first point which we are to consider. The buffalo seems to have extended its range beyond the Mississippi River. The nomadic savages had a habit of setting fire to the prairies. The flame swept into the eastern forests, bringing the open prairie into the midst of the Mound-builders' works, and reaching almost to the Ohio and the Allegheny Rivers. The hunters followed the buffalo to the eastern ranges. This will account for the disappearance of the Mound-builders. Still, we are to bear in mind that the earlier Mound-builders, those who dwelt in the fortified villages and who were the sun-worshipers, were not acquainted with the buffalo; at least they had no buffalo pipes. There was, however, a race of mound-building Indians subsequent to them, who were hunters and effigy-builders, and were acquainted with the buffalo. Our proof of this is as follows:

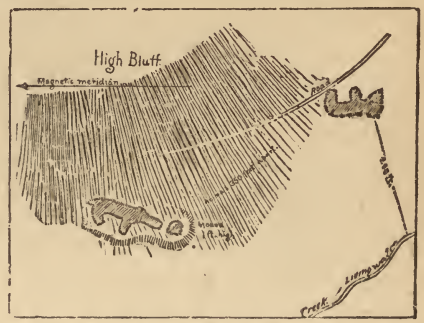


Fig. 1—Buffalo and Bear near Prairie du Chien.

1. The effigies of the buffalo are found in Wisconsin. This will be seen from reference to the cut See Fig. 1. The effigy of the buffalo has been seen in many places—at Beloit, Madison, and at Green Lake. Inscriptions of the buffalo are found in the picture cave at West Salem. 2. Shoulder bones of the buffalo, according to Squier and Davis, were found in Ohio, but at the summit of the mound and associated with modern Indian relics. 3. The bones of the buffalo, according to Mr. McAdams, were found in the depths of the pyramid mounds not far from Alton, Illinois. 4. The bones of the buffalo were found among the ash

heaps near Madisonville, Ohio. 5. Effigies of the buffalo, according to T. H. Lewis, have been recognized in the standing stones of Dakota.* 6. Traditions of the buffalo were prevalent among the Chickasaws and the Choctaws of the Gulf States. Traditions of an animal with an arm extending from the fore-shoulder, according to Charlevoix, were prevalent among the Indians of Canada. These discoveries and traditions are important, for they show that the mastodon and buffalo were contemporaneous with the Mound-builders, though the mastodon may have been known to one class and the buffalo to another. It is very uncertain just how early these Mound-builders lived. There are some indications that they were quite ancient. 7. When Ferdinand De Soto and his party landed in Florida they were surprised by the sight of the horns and head of a buffalo, an animal they had never seen before. This was in the hands of the Florida Indians. They afterwards became familiar with the buffalo robes or skins used by the Southern Indians. It appears, then, that at least 350 years ago the buffalo was known as far east as Florida. 8. According to Marquette, the buffalo roamed as far east as the prairies of Illinois in the year 1680, but we can not fix upon the date when the buffalo effigies were erected. Buffalo bones were found at the bottom of the mounds on the Great American bottom, south of the locality where the mastodon pipes were discovered. This would indicate that the buffalo and mastodon were contemporaneous and that the Mound-builders were acquainted with both animals, and that the Mound-builders' age extended from the time of the mastodon to that of the buffalo.

II. We would next refer to the evidence as to the succession of races. The works on the North Fork of Paint Creek, on the Hopewell farm, illustrate this. Here is a group of mounds, which has been explored by Warren K. Moorehead, under the auspices of the World's Fair. Some remarkable relics have been taken out. One mound was very large, 500 feet long, 190 feet broad, 24 feet high. Near the *top* of this mound were *stone effigies*, resembling those in Dakota. At the bottom of the mound were a number of skeletons, lying upon the base line. The ground had been burned hard, and the earth above this was interstratified with sand and gravel. The skeletons were found in dome-shaped cavities, four or five feet in height. One skeleton was called the king; there were wooden horns at his head, in imitation of antlers; thin sheets of copper covered the wood.

---

*The standing stones and the bone paths may have been the work of the Dakota Indians. Mr. McAdams has placed a plaster cast of a buffalo pipe in the museum at Springfield, Ill. It is uncertain whether the cast is of a genuine pipe. If so, it would prove that the pipe-makers with both animals, the mastodon and the buffalo. See Discovery of Mastodon Bones, American Antiquarian, Vol. I, p. 54. First Discovery of Pipe, Ibid., Vol. II, p. 68 Inscriptions in Cave, Ibid., Vol. VI, p. 16 and 122. Bone Paths, Ibid., Vol. VIII, p. 153. Animals Known, Ibid., Vol. IX, pp. 153 and 57. See Emblematic Mounds, pp. 274, 9, 163, 217. The following are the localities: Beloit, Rock County; Blue Mounds, Grant County; Butler's Quarries, Green Lake County; Buffalo Lake, Adams County; Prairie du Chien, Crawford County; Madison, Dane Co.

The horns were attached to a helmet-shaped head-dress or mask, which reached from the upper jaw to the occupit of the skull. Pearl beads, shell beads, bear teeth, bear and eagle claws, copper spools, copper discs, covered the chest and abdomen. A large platform pipe, an agate spear-head, four copper plates, canes from the south covered with copper were at the sides and back.

In the same mound were several skeletons, covered with a large quantity of copper, and adorned with most intricate and beautiful designs. These are classified into anklets, bracelets and wristlets, and ornaments for various parts of the body. The bracelets were solid throughout, and formed by bending a tapering bar of copper into a circle. There were four circular

Fig. 2.—Works at Hopeton.

discs, joined in pairs by a thick stem of copper, and four other discs, joined by pivots, and richly ornamented with repousse work. There were thin plates, cut in the form of fishes; others into diamond forms, with geometrical figures inside the rings. Most curious of the whole collection are two pieces of copper representing the *Suastika*,—the only one that has been found north of the Ohio River. Beside these, was a flat piece of copper that had thin pieces of cane inside, evidently intended to be worn on the wrist as a protection from the bow. Many of the pieces have attached to them a curious texture, resembling matting, made out of wood fibre; while several were plated with silver, gold and meteoric iron. One piece was evidently a cap for the crown of the head, and had an aperture through which the scalp-lock could protrude, or to which feathers could be attached. There were also with them pieces representing birds and animals, and

others, curiously pronged, which were evidently used for combs. The five skeletons were also found lying side by side,—two of which were covered with a layer of copper, six by eight feet. The copper had been worked into many forms. There were sixty-six copper belts, ranging in size from one and one half inches to twenty-two and one half inches in length. A large thick copper ax weighed forty-one pounds. This exceeds any specimen ever found in the United States. There were traces of gold on it. The cutting edge is seven inches broad and is very sharp. A number of smaller copper axes attended this. Thirty copper plates, with Mound-builders' cloth on them, overlapped the axes. The average size of the plates was ten by six inches. A great copper eagle, twenty inches in diameter, wings outspread, beak open, tail and wing feathers neatly stamped upon the copper surface, etc., covered the knees of one of the skeletons. This is one of the most artistic designs ever found in copper. Remains of a copper stool, about a foot in length and several inches in height, lay near one of the skeletons. The stool was made out of wood, and had been covered with sheet copper.

Here, then, we have the late tribes in their rudeness, but preceding these tribes we find a certain barbaric magnificence that might be compared to that of the early in habitants of Great Britain,—the symbols of sun-worship wrought into copper and placed upon the bodies. We have no doubt that the persons who were buried here, and who carried such massive axes and wore such heavy helmets and elaborate coats of mail, were ancient sun-worshipers, differing entirely from the later Indians.

The evidence of a succession of races is given elsewhere. The writer has explored the mounds scattered along the Mississippi River from the state line on the north to Alton on the south, and has found several classes of works in this district. They are as follows: 1. In the north, the effigies of Wisconsin passed over the borders, making one class. 2. Below these are the burial mounds at Albany, Moline and Rock Island, which were explored by the members of the Davenport Academy. These were mainly unstratified, some of which contained relics, such as carved pipes, red ochre, lumps of galena, sheets of mica and fragments of pottery. 3. Farther south, near Quincy, the Mound-builders buried their dead without depositing relics. The mounds are not stratified; neither do they contain relics. 4. The fourth class is that which has been very frequently described, consisting of the pyramids, of which Cahokia is a good specimen. 5. The fifth class is that marked by the stone graves. These extend from the mouth of the Illinois River to the state line at Cairo. What is remarkable about the Illinois mounds is that in every locality there seems to have been a large number of tribes, some of which were earlier and some later.

The relics which are in the Davenport Academy are for the

most part from the Iowa side, and are unlike the majority of those from the Illinois side, though there are localities in Illinois where similar relics are discovered. The contrast between the mounds at Davenport and others is seen in the cut Fig. 3 The lower part represents a mound in Illinois, the upper a mound in Iowa. These mounds are stratified, have layers of stones at intervals, the altars are pillars or piles of stones and have the bodies by the side. No such altars are found in any other mounds. The symbolism, however, is similar to that found in Ohio. It was the symbolism of the sun-worshipers, and it contained the crescent and circle. Fig. 3, No. 9. This shows that the Davenport Mound-builders should be classed with the sun-worshipers of Ohio, that the pipe-makers of this region were the same people as the pipe-makers of that State, and were older than the other Mound-builders.

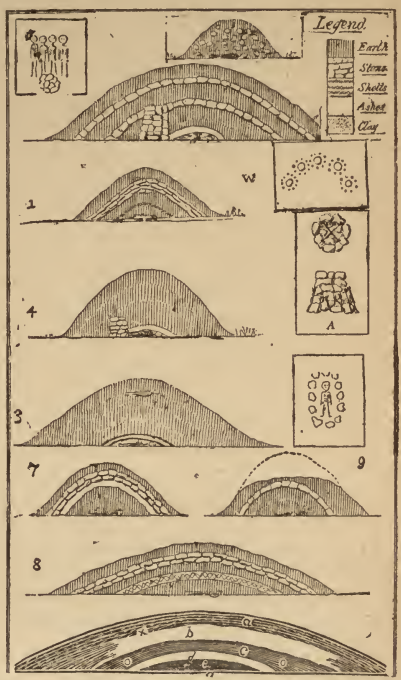


Fig. 3.—Stratified Mounds near Davenport.

III. The difference apparent in the antiquity of the mounds is the chief evidence. It was noticed by Messrs. Squier and Davis that many of the earth-works when first discovered were dilapidated, especially those upon the summits of the hills and the banks of the rivers. The streams had encroached upon the terraces and had broken down the walls of the villages. In one case, at the crossings of Paint Creek, the stream had overflowed the terrace and had made a passage-way for itself through a village enclosure, leaving part of the wall upon one side and part on the other. In another case the large circle had been encroached upon, and the terrace near which, at one time, was the bed of Paint Creek was broken down, leaving the wall of the enclosure; but the creek now runs more than a mile away. See Fig. 4. The same is true of the circle upon the North Fork. See Fig. 5. The enclosure near Dayton also illustrates this. This was situated in the valley of the Miami on land which is even now at times overflowed. It was overlooked by the great mound at Miamisburg and had evidently been occupied. Some maintain that the works had never been finished, but their condition is owing to

ESE LIBRARY

the wear of the stream. The works at Portsmouth had suffered the same destruction. The Scioto had changed its channel, had encroached upon the eastern terrace and had destroyed a portion of the covered way. At Piketon the stream had withdrawn from the terrace and had left an old channel, with ponds full of water, near the foot of the covered way, but is now flowing in a new channel half a mile from the covered way. The graded way which ended with the terrace was 1050 feet long and 215 feet wide. It may, at one time, have been used as a canoe landing or levee, for the village was on the summit of the terrace; but the village is gone and many of the works have disappeared.

The enclosures at Hopeton are better preserved, but the walls of the covered way, which are nearly half a mile in length, terminate at the edge of the terrace, at the foot of which it is evident the river once had its course, but between which and the present bed of the stream a broad and fertile bottom now intervenes This covered way may have been designed as a passage-way to Monnd City, on the opposite side of the river. See map. The graded way at Marietta ends with the terrace, but there is now an interval of 700 feet between the end of the way and the river bank. These changes indicate great antiquity in the works of Southern Ohio. The same is true of the southern works. There are old river beds near the pyramids of Georgia, according to Professor Eugene Smith. This is true also of the mounds at Mason's plantation. The Savannah River has encroached upon the largest tumulus and "performed what it would have taken long days to accomplish." The layer of charcoal, ashes, shells, fragments of pottery and bones, can be traced along the water front of the mounds, showing its construction. These are two feet below the surface; the superincumbent mass seems to have been heaped up to the height of thirty-seven feet above the plain and forty-seven feet above the water line.

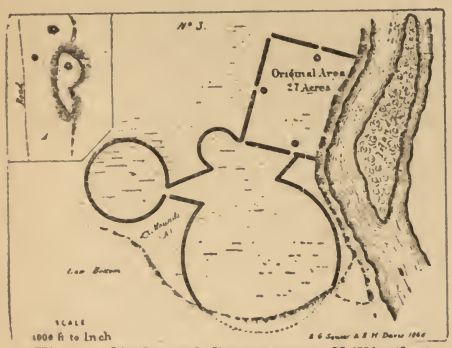


*Fig. 4.—Circle and Square near Chillicothe.**

The age of the trees growing upon the earth-works is to be noticed here. The forts of Southern Ohio when discovered were generally covered with forests, and trees of large size were found upon the very summits of the walls. Some of them when cut

*This is situated on the Scioto River, one mile south of Chillicothe. A portion of the square has been spoiled by the invasion of the river. The large circle has also been encroached upon. The low bottom at the base of the terrace was evidently at one time the bed of Paint Creek, but has since changed its channel.

down showed four or five hundred rings, thus indicating that at least five hundred years had elapsed since the fort had been abandoned. Such was the case with the old fort at Newark. Mr. Isaac Smucker says the trees were growing upon its banks all around the circle, some of them ten feet in circumference. In 1815 a tree was cut down which showed that it had attained the age of 550 years. Squier and Davis speak of the fort in Highland County. They say that "the area was covered with a heavy primitive forest of gigantic trees. An oak stood on the wall, now fallen and much decayed, which measured twenty-three feet in circumference. All around are scattered the trunks of immense trees in every stage of decay. The entire fort presented the appearance of the greatest antiquity."

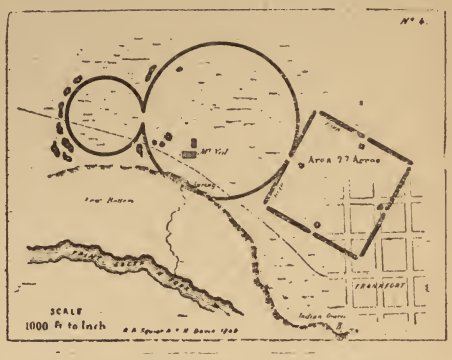


*Fig. 5 —Circle and Square near Chillicothe.**

IV. The contents of the mounds are instructive. It is remarkable that no buffalo pipes have so far been found in the mounds, though elephant pipes have been. We imagine the pipe-makers were earlier than the effigy-builders, for the pipes are found in the lowest strata of the mounds and are seldom found upon the surface; while the buffalo bones are often found near the summits of the mounds, and were very common upon the surface. Paths were made of the shoulder bones of buffalos in Dakota. Agricultural tools made from the bones of the buffalo were found in Ohio. These facts show that the range of the buffalo was formerly farther east. The indications are that the mastodon was known to the earlier Mound-builders and the buffalo to the later, and that the Mound-builders' age extended from the time of the mastodon to the time of the buffalo, and was prolonged through many centuries.

The mounds of habitation are found in the north and southeast part of Vincennes. The north mound has a height of 36 feet, a circumference of 847 feet, and is attended by another 25

*This work is situated on the left bank of the north fork of Paint Creek, 10 miles from Chillicothe. A portion of the large circle has been encroached upon and destroyed by the creek, which has since receeded something over a fifth of a mile. There was formerly a Shawnee town near this work. Indian graves are marked on the plan. From these relics have been taken—gun-barrels, copper kettles, silver cross and brooches, and many other ornaments which the Indians were accustomed to bury with the dead. The ancient works at Piketon, at Cedar Banks, and at High Banks have also been encroached upon by the river. See section map of twelve miles of the Scioto Valley. The works at Piketon illustrates the same fact. The works are destroyed by the wasting of the bank. The river now runs at a distance. Its ancient bed is distinctly to be seen at the base of the terrace. See maps on pp. 17, 18, 115 and 189; also cuts on pp. 94, 154, 240 and 264.

feet high and 40 feet in circumference. Prof. Collett speaks of one mound which he calls a temple mound, and says that the temple had two stories. In other words, it was a terraced mound. We have elsewhere expressed the opinion that this group at Vincennes, as well as that near Evansville, belongs to the same class with the Cahokia mounds and may well be called terraced pyramids or terraced platform mounds. They constitute temple mounds of a peculiar type. They are generally grouped in such a way that the terraced mound is in the center. These pyramid mounds were evidently devoted to sun worship, though it is uncertain whether their summits were occupied by temples or by houses of the chiefs. If we take the descriptions given by the early explorers, we should say that the terraced pyramids were perhaps the residences of the chiefs and that they were guarded by warriors who were stationed upon the terraces, the conical mounds in the vicinity being the place where the temple was located. This, however, takes us into a new field. A description of the pyramids has been given elsewhere. We only refer to them here as exhibiting a race of sun worshipers, who were followed by a race of hunters.

The mounds in the State of Illinois were built by a different class of people; many of them contained in the stratification the records of different periods. This was especially the case with the burial mounds. There are many burial mounds which have bodies at different depths; some of the bodies having been deposited by later tribes and some by earlier. Those at the bottom of the mounds are generally badly decayed and show signs of age. We find an illustration among the burial mounds. The pyramid at Beardstown, Illinois, is to be noticed. This seems to have been a very old structure, but was occupied at recent date. It was 30 feet high, 150 feet in diameter, and stood immediately upon the bank of the river on land which was surrounded by a slough and which was in reality an island. This island, on account of its favorable position, had been for centuries a camping ground of the aborigines. It was excavated by the city authorities and found to contain upon its summit shallow graves with skeletons of recent Indians, buried with implements of iron and stone and ornaments of glass and brass. A little deeper remains of Europeans, perhaps followers of La Salle and Tonty; a silver cross was grasped by the skeleton hand and Venetian beads encircled the skeleton waist of a former missionary, a disciple of Loyola, who had probably made his grave in this distant wilderness. These were intrusive burials. At the botton of this mound, on the original sand surface, there was found a series of stone graves or crypts, formed by planting flat stones in the sand and covering them with other flat stones. These tombs or rude cists were empty. So great was the lapse of time that the bodies had entirely decayed, not a vestige remained. The mound when fin-

ished formed an elevated platform, from whose summit was an uninterrupted view of the distant bluffs on both sides of the river for two or three miles above and below. A nest of broad horn stone discs was discovered buried in the sand a short distance above this mound. The nest was composed of five layers of flints, about 1000 in all. They were embedded in the bank of the river, but above the reach of the highest water, four feet below the surface. They had been placed in an ovoid heap or altar, overlapped each other as shingles on a roof. The length of the ovoid was six feet and the width four feet. The relics had an average length of six inches, width four inches; their shape was also ovoid. They were discolored with a concretion which showed undisturbed repose in the clay, enveloped for a great period of time. It is supposed that they were originally brought from Flint Ridge. They resembled the flint discs found in the Clark's works of Ohio; similar nests have been found near St. Louis, Cassville, on the Illinois river; several places on the Scioto river. The most rational theory in reference to the discs, is that they were deposited in obedience to a superstition or religious idea, which was perhaps related to a water cult. Dr. Snyder mentions a deposit of 3500, near Fredericksville, in Schuyler County, also on the Illinois river. Dr. Charles Rau described a deposit of horn stone discs, circular in shape, near Kaskaskia river, and another deposit of agricultural flint implements near East St. Louis. W. K. Morehead mentions a deposit of 7300 discs discovered in a mound near Clark's works in Ohio. These discs seem to connect the Mound-builders of the Illinois river with those of the Scioto, and convey the idea that the pyramids and the sacred enclosures were built at the same time.

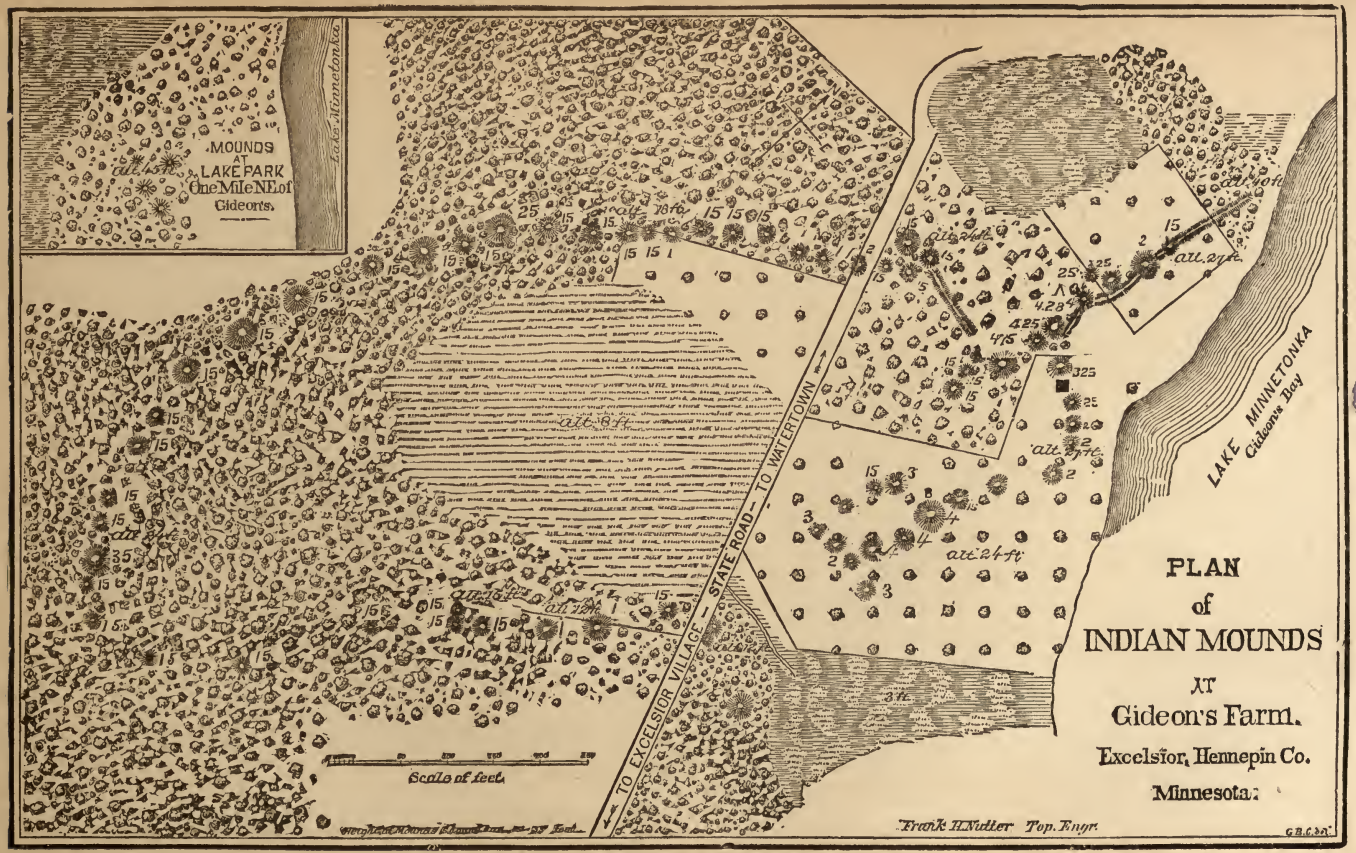
Another mound of this class was found at Mitchell's Station, on the Chicago and Alton Railroad. The mound was 300 feet long and 30 or 40 feet high, and contained near the base of it a skeleton in a wrapping of matting, a large number of copper implements and ornaments, and a portion of the head of a buffalo.

It is to be noticed here that the pottery of this region resembles that found in West Tennessee and in Southeastern Missouri —a pottery mady of very fine material and very highly glazed. The animals imitated by the pottery are very much the same, but the pottery pipes and portrait vases are lacking. There are many human skeletons lying underneath the soil in the vicinity of these platform mounds. In some places layers of them to the depth of eight or nine feet are found. Relic-hunters also find many burials along the sides of the bluffs. Large quantities of agricultural tools are taken out from these burial places. These cemeteries on the bottom lands and on the bluffs indicate that there was an extensive population for a long period of time. We classify the works and relics with those of the Southern Mound-

builders, and imagine that they were older than the Northern Mound-builders.

We here refer to the mounds of Kentucky. Sidney Lyons, in speaking of the mounds opposite the mouth of the Wabash, says that they contain three different kinds of burials: 1. Those without works of art near the summit. 2. Those with works of art, the bodies having been laid on the surface. 3. Deep excavations containing badly preserved bones. One mound contained different burials, the urn burial in the middle. With the urns were deposited parcels of paint and iron ore. Another mound contained several copper awls and iron ore; another mound contained the following relics: several copper awls, five inches long, a disc of copper covered with woven fabric, three circular stones with the margin groved like a pulley, with five small perforations in the margin; in another mound was a layer of clay, beneath the clay a pavement of limestone. The burials above the clay were peculiar: the bodies were placed in circles, lying on the left side, heads inward; the burials below the pavement six feet below the clay; but no relics or works of art were connected with the deep burials. Some of the bodies were covered with slabs of stone, set slanting like a roof, but those below the pavement were merely covered with sandy soil. Another was to dig a deep vault in the form of a circle, placing the bodies against the side of the wall, in a sitting posture, faces inward. These different burials show that there was a succession of races in this region, some of them quite modern, others very early.

Mr. Lyons seems to have come upon burial mounds in which there were successions of races buried, three or four different periods of time being represented, The relics and bones in the deep burials were generally decayed. The relics in the middle series were of a primitive kind and seem to have been made by an unwarlike people. There were extensive cemeteries in Tennessee and Missouri, and grand depositories of bones in the caves of Kentucky and Ohio. These cemeteries and ossuaries may have been earlier or later than the regular Mound-builders; they at least show that there was a succession of races and that all parts of the country were occupied for a long time.


MOUNDS AT LAKE PARK One Mile NE of Gideons.
Lake Minnetonka
TO EXCELSIOR VILLAGE — STATE ROAD — TO WAYZATA
LAKE MINNETONKA Gideons Bay
PLAN of INDIAN MOUNDS AT Gideon's Farm. Excelsior, Hennepin Co. Minnesota.
Scale of feet.
Frank H. Nutter Top. Engr.

MAP OF BURIAL MOUNDS IN MINNESOTA.

REESE LIBRARY OF THE UNIVERSITY

BURIAL MOUND AT DETROIT.

CHAPTER V.

BURIAL MOUNDS VIEWED AS MONUMENTS.

DIFEERENT MODES OF BURIAL ASCRIBED TO DIFFERENT TRIBES OR RACES.

We propose in this chapter to take up the burial mounds in the United States and study them as monuments. The term is very appropriate, since they, in common with all other funereal structures, were evidently erected as monuments, which were sacred to the memory of the dead. Whatever we may say about them as works of architecture, they are certainly monumental in design. It is a singular fact that mounds have everywhere been erected for this purpose. We read in Homer that a mound was built over the grave of Patroclus, and that the memorial of this friend of Æneas was only a heap of earth. The name of Buddha, the great Egyptian divinity, has also been perpetuated in the same way. There are great topes, conical structures, in various parts of Asia, which contain nothing more than a fabled tooth of the great incarnate divinity of the East, but the outer surface of these topes is very imposing. The pyramids of Fgypt were erected for the same purpose. Some of them contain the mummies of the kings by whose orders they were erected. Some of them have empty tombs, and yet they are all monuments to the dead. It was a universal custom among the primitive races to erect such memorials to the dead. The custom continued, even when the races had passed out from their primitive condition, but was modified. The earth heaps gave place to stone structures, either menhirs or standing stones, cairns, cromlechs, dolmens, triliths. stone circles, and various other rude stone monuments, though all of these may have been more the tokens of the bronze age than of the stone age. We make this distinction between the ages: during the paleolithic age there were no burial heaps; the bodies were placed in graves, or perished without burial. During the neolithic age the custom of burying in earth heaps was the most common, though it varied according to circumstances. During the bronze age stone monuments were the most numerous. When the iron age was introduced the the modern custom of erecting definite architectural structures appeared. The prevalence of the earthworks in the United States as burial places shows that the races were here tn the stone age, but the difference between these will illustrate the different conditions through which the people passed during that age.

There is one point to be considered here. It has been maintained that the stone age has existed in all parts of the globe. The prevalence of burial mounds proves this. It is wonderful that they are so widely distributed. Sir John Lubbock says:

"In our own island the smaller tumuli may be seen in almost every down; in the Orkeys alone it is estimated that more than two thousand still remain, and in Denmark they are even more abundant; they are found all over Europe from the shores of the Atlantic to the Ural mountains; in Asia they are scattered over the great steppes, from the borders of Russia to the Pacific ocean, and from the plains of Siberia to those of Hindostan; the entire plain of Jellabad, says Masson, is literally covered with tumuli and mounds. In America they are to be numbered by thousands and tens of thousands; nor are they wanting in Africa, where the pyramids exhibit the most magnificent development of the same idea; indeed, the whole world is studded with the burial places of the dead. Many of them, indeed, are small, but some are very large. The mound on Silbury hill is the highest in Great Britain; it has a height of 187 feet. Though it is evidently artificial, there is some doubt whether it is sepulchral."*

Another fact is to be noticed. The custom of erecting tumuli, or earth heaps, has survived late into history. This is the point which Dr. Cyrus Thomas has sought to establish. It will be readily granted, for the intelligent reader will notice that there are such tumuli not only in America, but also in various parts of Europe. The tumuli in Russia will serve as an example. These are called "kurgans," and are said to have belonged to historic times, some of them having been erected as late as the eleventh centnry, A. D. Two kinds of graves are found in them, one kind belonging to the bronze age, the other to the iron age, the burning of the dead having been practiced in the bronze age, but the extended corpse being characteristic of the iron age. Another remarkable proof of this is furnished by the discovery of the burial place of one of the Norse sea-kings. It was on the shores of Norway, near Gokstad, and contained a Viking ship, with oars, shields, benches, and other equipments. In the ship was a sepulchral chamber which contained the body of a Viking chief, and about it were the remains of horses which were buried with him. Here, then, we have a case similar to those found in Russia, burial mounds having been erected as late as the tenth century. Great changes had taken place in the surroundings since that time, for the mound was some distance from the shore, showing that the sea had receded from the land since the burial.

The most important point is that there is the perpetuity of the custom of mound building through all the "ages". Here

*Lubbock's Prehistoric Times, pp. 111 and 112.

we have the Viking sea-king, with a boat fastened together with iron nails. In the same region we have kitchen middens with the remains of extinct animals in them. Between the two we have the whole history of the stone age, the different monuments showing the succession of races. If this is the case in Scandinavia, it is also the case in America. The burial mounds are not all, by any means, of modern date. Perhaps none of them can be traced back to as early a date as the kitchen middens and the cave contents of Europe indicate, yet many of them are, we believe, quite ancient; in fact, so ancient that everything that was perishable has passed away, and only the imperishable has been preserved. The mounds are valuable as records, since they show a succession of races. There may be, even in the same group, different mounds which have been erected in different ages, so that the records may go over several hundred years, even when the appearance externally is the same.

With these remarks we propose to consider the burial mounds of the United States, especially those found in the Mississippi valley. We would say, however, before beginning, that there are mounds outside this valley, in fact many of them. They have been discovered on the northwest coast, in British Columbia, in Washington Territory, and in Oregon. Mr. James Deans claims that he has discovered a certain embankment near Victoria, B. C., with a ditch six feet deep; also low mounds, the remnants of ancient dwellings, and burial caves of the usual type. Mr. Forbes maintains that the works of this region resemble the stone circles which are found in Devonshire, England. The dimensions of the mounds are from three to eighteen feet in diameter, and they are found in groups of from three to fifty. It is probable that these earthworks are fortifications, and that the stone circles within them are the remains of huts, which have fallen and been destroyed. The burial mounds of this region have not been explored. There are graves near Santa Barbara, and on Santa Rosa island, in Southern California, which have yielded large quantities of stone relics. These have been described by Rev. Stephen Bowers, Drs. C. C. Abbott, H. W. Henshaw, Lucien Carr, and others.*

There are also shell heaps or kitchen middens in the same region. These, however, differ from the burial mounds, which are really rare along the Pacific coast. Dr. Hudson has discovered a tumulus of the regular type, and has described it in THE AMERICAN ANTIQUARIAN.† It is situated near Oakland, Cal. "It is imposing in form, interesting in feature, locality and composition." It measures three hundred feet in diameter at the base, and twenty-five feet in height. It is circular in form, with a flat summit, is one hundred and fifty feet across the truncated

*See Wheeler's Geographical Survey, Vol. VII, Smithsonian Report, 1877.
†See American Antiquarian, Vol. VII, No. 3.

top. A relic exhumed from a mound in the vicinity is also described by Dr. Hudson. It is a crescent carved in stone, two inches wide and eight inches from point to point, and is supposed to indicate the prevalence of sun worship in the vicinity.

We now come to the burial mounds of the Mississippi valley. These are to be elassified and described. We shall describe them, both according to their architectural character and their geographical location, as well as their contents, since this is the light in which we are to study them. The architectural character embraces, 1, the question of size and shape; 2, the material of which they are composed; 3, the method of construction, whether stratified or solid; 4, the character of interior, whether a chamber, an altar, a fire-bed or other structure.

The study of geographical location will embrace two or three points: 1, The question whether some of them were not used as signal stations; 2, whether some of them were not built in conconnection with villages; 3, whether their contents do not reveal the social status, the relics of one district being very different from those of another district, but the burial mounds being quite similar in character throughout the same districts; 4, whether their asscciation with other earth works would indicate that all were built by the same clan or tribe.

In treating of the burial mounds of the Mississippi valley, we shall keep the division which we have adopted with reference to the other earth-works, but shall modify it to suit the circumstances. The division is as follows: I. The Upper Mississippi district, including the mounds in Minnesota and Dakota, and extending north as far as Lake Winnipeg, south as far as the Des Moines river. II. The Wisconsin district, the area of the emblematic or effigy mounds. III. The district about the Great Lakes, including Michigan and New York. IV. The Middle Mississippi district, including Illinois, Iowa and Missouri. V. The district on the Ohio river. VI. The Appalachian district, including Western North Carolina and Eastern Tennessee. VII. The Lower Mississippi district, and Texas. VIII. The Gulf district, including the Gulf States east of the Mississippi. Here we find large, flat-topped, pyramidal mounds, enclosed by walls and surrounded by ditches and canals.

This division is the one given by Dr. Cyrus Thomas, though it is based upon a division previously laid down by the writer, but with two districts added, the middle district having been divided into two, and another on the eastern coast, in North Carolina, having been discovered by Dr. Thomas himself. The division is based upon the characteristics of the relics which are found in the districts, rather than upon the burial customs, and therefore indicate nothing concerning these customs. Still it is well to state that there is a correlation between the

burial customs and the districts, so that we may recognize the social status of the mounds, as well as of the general structures.

I. We take first the district which is embraced within the Upper Mississippi valley, which may be called the Northern district. There are many burial mounds in this district. There are, to be sure, a few other earth-works, such as fortifications, lodge circles, lookout mounds, and domiciliary mounds, but the large majority were evidently erected for burial purposes. These are found in Minnesota, Iowa, Kansas, Missouri, Illinois, and Indiana, all of which may be called prairie States. The district might also be said to embrace the valley of the Red river and the States of Dakota, for the mounds found in these regions are mainly burial mounds. It is a very extensive district, and yet one that is homogeneous in character. It is uncertain whether the mounds were the work of Indians known to history, but they were evidently built by people of the hunter class, all of whom were nomadic in their habits. It is one of the peculiarities of nomads that they rarely provide for permanent habitations, but they do provide for the burial of the dead. It is strange that throughout the region which we have mentioned there are so few fortifications but so many burial mounds. It is probable that the people who dwelt on the prairies had from time immemorial been in the habit of placing their villages near the water courses, and then building signal mounds at various points on either side of the villages. By this means they could become aware of the approach of an enemy, and then find safety by taking flight, leaving their villages to be destroyed by the enemy.

It is noticeable that most of the signal stations were burial mounds, or, in other words, burial mounds were used as signal stations, the location of these mounds on the high points being not only favorable for burials, but also useful for the purposes of defense, as they furnish fine views of the surrounding country. It is possible that there was a religious sentiment embodied in them—the spirits of the dead watching over the abodes of the living, but the living taking the abodes of the dead as their watch towers, and so the living and the dead were combined together to secure safety.

They may have been used also by hunters as lookout stations, from which the presence of game could be discovered, as many of them command views of the prairie upon one side and the bottom lands upon the other, being so placed that large animals might be seen grazing on one side and birds and water fowl feeding upon the other, the lakes, streams and open country being brought to view by the elevated position, and at the same time signals in the shape of fires or clouds of smoke could be sent to more distant points. It is a region which favored this method of defense and this kind of hunting, since it was a prairie region through which large streams and rivers flowed, the rivers furnishing an abundance of

fish and water fowl, but the prairies game of a larger sort. It is very interesting to pass over the country and study the location of the burial mounds with these points in view, for there is scarcely a mound whose location is not significant. The burial mounds form cordons of lookout stations, and taken together they make a net-work which covers the whole map. The writer has discovered three lines of lookout stations along the Mississippi river, one of them on the bottom lands near the bank of the river, another on the bluffs which overlook the river, another several miles back overlooking the prairies, which are situated on either side of the river valley. It was also noticed that within the lines of lookout stations the villages were built, some of them being on the bottom land, others on the bluffs, others on the edge of the prairies, the burial mounds being placed near the villages, but lookout mounds at a distance. Others have also noticed the same system of signal stations on the Missouri river.*

As to the character of the mounds within the district, we would say that they are ordinary conical or hemispherical tumuli, built solidly throughout, very few of them having cists within them, though some of them contain layers of stone, which alternate with the layers of earth, the bodies being below the strata. Perhaps the district may be subdivided according to the relics contained in the mounds, but not according to the modes of burial, though different modes of burial were practiced by the different tribes which traversed the district.

Some of the bodies are recumbent, others in sitting posture, others lying upon the side, perhaps buried in the attitude in which they died; others present promiscuous heaps of bones—"bone burials"; others have the bodies arranged in a circle, feet out and heads toward the center; others have the bodies arranged in lines placed parallel with one another. A few have bodies in tiers, as if piled upon one another. All, however, are buried in a compact manner, chambers being exceptions.

The solid type of burial mound we ascribe to the hunter races. This may seem conjectural, and yet we think the conclusion is proven by the facts. If we take the range of this class of tumuli and compare it with the habitat of the hunter tribes known to history, we shall find a very close correspondence. In this district we find the Algonquins and Dacotahs, who were strictly hunters, and the Chippewas, who were both hunters and fishermen. They occupied all of the region between the great lakes and the Ohio river, extending west as far as the Missouri river. They would be called savages, though according to Mr. Morgan's classification, they would occupy the upper status of savagery and the lower status of barbarism. They were partially village

*S. V. Proudfit, in American Antiquarian, Vol. VI, No. 5.

Indians, were acquainted with pottery, they used the bow and arrow, occasionally used metals such as copper, galena. brown hematite and mica. They subsisted upon wild animals, but also gathered wild rice, and some of them cultivated maize and had patches of squashes, melons and other garden products. The chief tokens of this class of people are found in the burial mounds. They consist of arrows and spears, axes and hammers, shell beads, copper needles, knives, pipes, badges or maces, spool ornaments, and occasionally specimens of cloth. Modern relics are frequently found in the mounds, showing that the hunter races of this district did not abandon the mound building until after the advent of the white man. The relics, however, prove that in the prehistoric times the people of this entire district were in a much lower condition than those in the Southern States. There are no burial urns, no painted pottery, no elaborate symbols, very few idols or human images, and but few inscribed tablets. There are traces of extensive aboriginal trade, copper from Lake Superior, shells from the sea coast and the gulf of Mexico, obsidian cores from the Rocky mountains, mica from North Carolina, flint from Ohio, and galena from Wisconsin. This variety of relics proves not only that there was an aboriginal trade, but that the tribes were wanderers and had not reached the sedentary condition which is peculiar to agricultural races. This confirms what we have said, There may have been a great variety of races, and it is very likely that there were many periods of occupation, a succession of races. Still, the region was so favorable to hunting that it seemed to have been occupied by hunters from time immemorial. We have discovered signs of different periods of occupation in many of the burial mounds of this region. In one group we found three mounds. One of them contained the body of a medicine man, with a modern looking-glass in one hand and a bridle-bit in the other, with fragments of cotton cloth, pieces of tin, coils of brass wire and other relics about his person, showing that he was buried after the advent of white men, probably within fifty years. Another mound contained several bodies, but with no relics except a single chipped flint arrow-head, though a child seemed to have had a wristlet of bone beads around its hand, and a pottery vase filled with sweatmeats which had been placed near its head. This mound had trees growing upon its summit which were at least three hundred years old. The third mound contained three bodies lying upon the side, with face in the hand.* We discovered also in the same region mounds built with stone walls in the form of a circle, filled with bodies laid in tiers, but with stone slabs lying between the tiers, the whole solid throughout, and a quasi

*There are evidences that this mode of burial was practiced by one of the later tribes, possibly Sacs and Foxes, but the other burials were by the earlier tribes, some of them by Shawnees, and some of them by tribes preceding even the Illinois.

roof of slabs covering the whole structure. The evidence was that a number of tribes had occupied the region. Each tribe had practiced a different mode of burial, but that, with all their changes, no tribe passed beyond the hunter state. We give a series of cuts* to illustrate the character of the mounds of this region. One of these represents a group near Excelsior, Minn. See Plate I. It is in a forest which borders on Lake Minnetonka. It will be noticed that there is a circle of mounds surrounding a low place or natural meadow, and a wall extending along the lake shore. The group contains sixty-nine mounds, most of them burial mounds. One of the mounds was opened, and thirty-five skulls were found within it, arranged in a circle, covered with

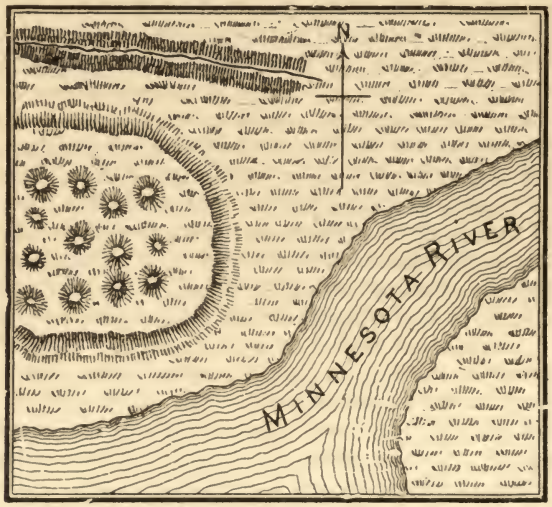


Fig. 1—Group of Mounds Twelve Miles from Gideon's Bay.

sand. The location of the group and the arrangement of the mounds would indicate that it was the site of an ancient village. The writer has discovered other village sites with the same or similar arrangements of burial mounds—one of them on the Crawfish, near Mud Lake, in Wisconsin, and another at the Corliss Bayou, near Prairie du Chien. The placing of the burial mounds around the edge of a village site may have been owing to superstition, the same superstition as that which led to the use of a burial mound as a signal station, the spirits of the dead being regarded as a protection to the village, since they were supposed to remain near the place where the body was laid. It may, however, have been owing to the custom, which prevailed in certain tribes, of burying the dead in the very spot where the

*See Smithsonian Report, 1879, p. 422

BURIAL MOUNDS IN OHIO.

lodge stood, and then moving the lodge to another place. A group of mounds one mile northeast of this is shown on the upper left-hand corner of the cut. Plate I. They are on a spot of ground four hundred and fifty feet above the level of the lake, and were probably used as signal stations. A group twelve miles southeast is represented in the next cut. Fig. 1. Here are thirteen mounds situated on a high bluff, showing that these were used as signal stations as well as burial mounds. There is another group, two miles southwest, which contains forty or fifty mounds, and still another, seven miles northwest, which is called Mound City. Here the writer has discovered a game drive. Taking the region together, we should say that the burial mounds were closely connected with the village life, but such a kind o life as hunters would follow, the very position of the tumuli being such as would be favorite spots with hunters.

There are not many large mounds in the northern district. The only one which has been discovered is the one called the hay-stack mound. It is situated in Lincoln County, Dakota, eighty-five miles northwest of Sioux City. It is on a fine bottom, and is three hundred and twenty-seven feet in length at the base at the northwest side and two hundred and ninety feet on the southeast side, and one hundred and twenty feet wide. Its sides slope at an angle of about fifty degrees; it is from thirty-four to forty-one feet in height, the northeast end being the higher.

The most interesting mounds of this district are the lookout mounds, to which we have already referred. Some of these are quite large, being situated upon sightly places, they are prominent lankmarks, and are now becoming interesting objects for tourists to visit. One such lookout mound is situated near St. Paul; others at Winona, at Red Wing, at Dubuque, at Dunleith, at Rock Island and Davenport, at New Albany, Keokuk, Quincy, and other places. One of the mounds south of Quincy was used by the coast survey as a place to erect a tower upon, thus showing that it occupied a very prominent position.

We give here a map of the mounds situated along the banks of the Mississippi river, near Muscatine. The map will show the number and location of the tumuli. They are perhaps more numerous in this vicinity than elsewhere, but they are generally placed on the highest points or bluffs, as they are here. This particular region has been explored by gentlemen from Muscatine and from Davenport. The letters will indicate the points. It has been found that they were nearly all burial mounds, though they did not all contain relics, other than the bones of the dead. See map.

There are shell heaps in this vicinity, located in the neighborhood of these mounds, "which extend for miles without interruption." They are composed of recent shells and contain few implements. The mounds occupy the most beautiful prospect

in the country. One large mound five miles east of Moline was opened and disclosed the following structure: Three feet of soil (a), twenty-two inches of ashes and bones (b), and twelve inches of charcoal and bones (c). See Fig. 2. In seven mounds the bodies were found lying upon the side, the knees drawn up to the chin.* Two other groups in this vicinity are represented in the cuts. Figs. 3 and 4. One of them, the one on Tohead Island, has a shell heap near it, and the other containing ten mounds, is located on an isolated hill or ridge. In the vicinity is found a cemetery containing two or three hundred graves. The graves are upon low ground, and the mounds upon high ground.

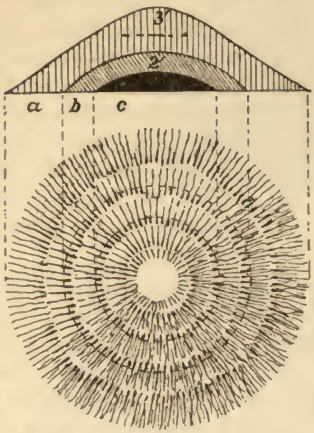


Fig. 2—Mound near Moline.

We give also another cut (see Fig. 5†) to show the relative grouping of the burial mounds. The group has been explored by parties from the Davenport Academy, and some interesting relics have been taken from them, Moline being but a few miles east of Davenport. The group contains thirty-three mounds, some of them made of lime-stone slabs.

The burial mounds of this vicinity—Muscatine, Rock Island, Moline and Davenport—show how extensive the population was. They contain many relics which show that the people were quite advanced in some of the arts, the sculptured pipes which have been taken out from the mounds being very remarkable. There is not a better collection of the pipes of the Mound-builders' in the United States than the one contained in the museum of the Davenport Academy of Science. These pipes were taken from the mounds in the vicinity, those from the Cooke farm, three miles south of Davenport, being the most interesting. From this same group

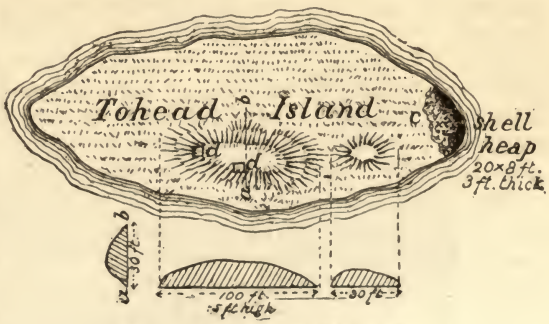


Fig. 3—Mound on Tohead Island.

*See description of same mode of burial in mounds near Quincy, Ill.
†See Am. Antiquarian, Vol. II, No. 2. Taken from Smithsonian Report, 1879, p. 365

on the Cooke farm the so-called Davenport tablets were taken. These are anomalous in character, totally unlike the other specimens in the cabinet. Members of the Academy maintain that they are genuine, but one may recognize upon them so many Roman and Arabic numerals, and so many alphabetic letters, as to conclude at once that they were made by some one acquainted with these modern characters. The relics contained in the cab-

Fig. 4.—Group of Ten Monuds on a High Ridge.

inet, aside from these tablets, are very valuable. We find here many interesting specimens of copper axes and pieces of cloth, as well as pipes and pottery. There are also relics in the cabinet from the districts farther south, from Missouri and Arkansas, and these being placed side by side, show the differences between the districts in grade of culture and art products.

II. We come now to the second district. This is the district occupied by the effigy mounds. It is a very interesting region.

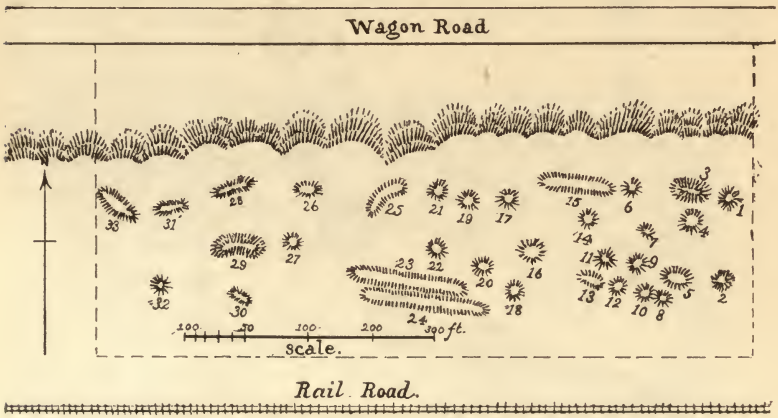
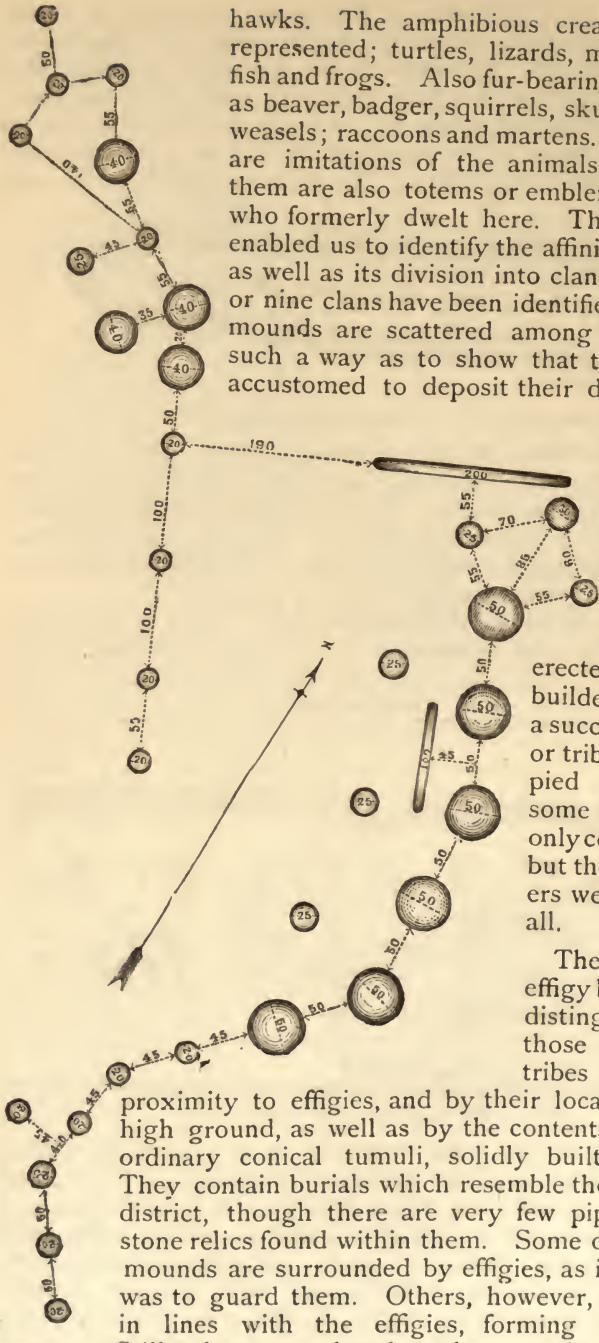


Fig. 5.—Burial Mounds near Moline, Ill.

Here the effigies are numerous and have a great variety of shapes. We have in them complete imitations of the animals which once abounded, but which have become for the most part extinct. There are many effigies of panthers, wolves, foxes, bear, wild cat and other beasts of prey. Besides them we have moose, elk, deer, buffalo, antelope and other grazing animals There are also many birds; eagles, hawks, wild geese, pigeons swans, cranes, herons, ducks of various sorts, swallows, night

REESE LIBRARY
UNIVERSITY



hawks. The amphibious creatures are also represented; turtles, lizards, muskrats, otter, fish and frogs. Also fur-bearing animals, such as beaver, badger, squirrels, skunks, mink and weasels; raccoons and martens. Many of these are imitations of the animals, but many of them are also totems or emblems of the tribe who formerly dwelt here. The effigies have enabled us to identify the affinity of the tribe as well as its division into clans. Some eight or nine clans have been identified. The burial mounds are scattered among the effigies in such a way as to show that the clans were accustomed to deposit their dead in conical tumuli, though they occasionally erected an effigy over the prominent members of the tribe. Not all of the conical tumuli were erected by the effigy builders. There was a succession of races or tribes which occupied this region, some of which built only conical monnds, but the effigy builders were the first of all.

The tumuli of the effigy builders can be distinguished from those of the later tribes both by the proximity to effigies, and by their location upon the high ground, as well as by the contents. They are ordinary conical tumuli, solidly built throughout. They contain burials which resemble those of the first district, though there are very few pipes or carved stone relics found within them. Some of these burial mounds are surrounded by effigies, as if the purpose was to guard them. Others, however, are arranged in lines with the effigies, forming parts of the groups. Still others are placed on the summits of hills, with

effigies arranged in line in front of them, others in clusters with effigies at various distances from them.* In one case a row of burial mounds was found located on a ridge or high cliff; the

Fig. 7—Effigies and Burial Mounds near Beloit.

ridge having the shape of an immense serpent, and the mounds being arranged so as to show the form of the serpent, the summit of the ridge and the line of the mounds both conveying the same idea. This was near Cassville, in Grant County, Wisconsin.

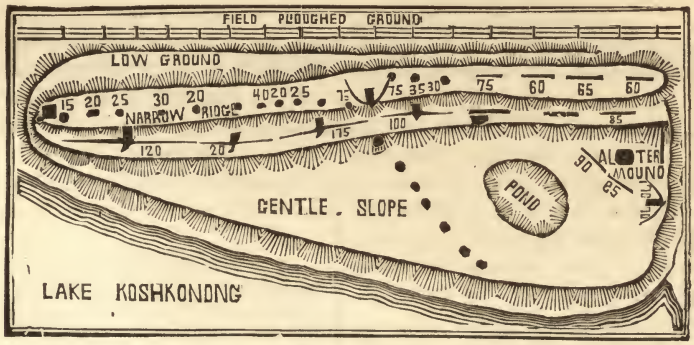


Fig. 8—Mounds on the East Side of Lake Koshkonong.

We give a series of cuts to illustrate the burial mounds of this district. The first group is situated in the vicinity of the so-called elephant effigy, on the same bottom land, but about a mile to the north. See Fig. 6. It was described by Mr. Moses Strong.†

*See book on "Emblematic Mounds," by the author. †Smithsonian Report, 1875.

The group was excavated and found to contain intruded burials, skeletons very fresh in appearance, but no other relics. This group may have been erected by a tribe which followed the effigy builders. Another cut, however, represents a group near Aztlan (see Fig. 13), the celebrated ancient city, which may have been the capital of the effigy builders. The next represents a group near Beloit. See Fig. 8. Here effigies and tumuli are associated. Another cut (see Fig. 9) represents a group on the east side of Lake Koshkonong. Here burial mounds are guarded by eagles. Another group on the west side of Lake Koshkonong represents burial mounds guarded by tortoises. Burial mounds have been explored by various parties, Dr. I. A. Lapham, Dr. J. E. Hoy, R. B. Armstrong, W. H. Anderson, Wm. F. Clarke, Dr. Cyrus Thomas, Col. J. G. Heg and others.

Fig. 9—Mound at Waukesha

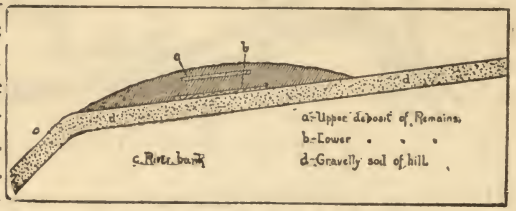


Fig. 10—Mound at Indian Ford.

Fig. 11—Mounds on Rock River.

The mound explored by Dr. Lapham was at Waukesha. This group was found on the college campus. A circular wall about nine feet in diameter was discovered. This extended about two feet above the original surface. An excavation within this wall was filled with black earth to the depth of about two feet. At the bottom of this was a skeleton lying on its back. It was surrounded by a circular heap of stone, the stone also being placed over the body so as to form a sort of rude stone coffin. See Fig. 9. In the left hand of the skeleton was a pottery bowl, in the right hand a small pipe. At the head were fragments of two pottery vessels. The mound opened by Dr. J. E. Hoy was at Racine. This contained a body

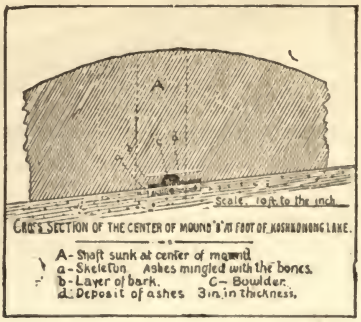

A
Scale 10ft to the inch
CROSS SECTION OF THE CENTER OF MOUND "A" AT FOOT OF KOSHKONONG LAKE.
A- Shaft sunk at center of mound.
a- Skeleton. Ashes mingled with the bones.
b- Layer of bark. C- Boulder.
d- Deposit of ashes 3in. in thickness.

Fig. 12—Mound at Newton.

in a sitting posture, but there were no cist or wall or relics near it. The mounds explored by Mr. Clarke were near Indian Ford, on Rock river. One of these contained two burials (see Fig. 10); with three skeletons at the top and seven skeletons at the bottom. Another large mound (see Fig. 12), 75 feet in diameter, 13 feet high, contained ashes three inches thick (d); below the ashes a flat stone (c); below the stone decayed wood and bark (b), and below these a human skeleton (a).

Thus we see that there was no uniformity in the structure of the burial mounds of the district. Some of them seem to have been solid, others stratified. The bodies in some were found in sitting posture, in others recumbent; some of them contained rude stone walls; others contained altars; there is also evidence of cremation in some of them; in others, evidence of bone burial. The probability is that there was a succession of races here, and that some of the races or tribes continued to bury in mounds until after the settlement of the country by the whites, as modern relics are sometimes found in them. The state abounds with copper relics, but it is uncertain whether these were left by effigy builders, or by subsequent tribes, probably, however, by the later tribes, since most of them are surface finds.

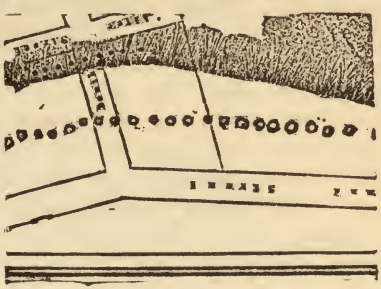


Fig. 13—Mounds near Aztlan.

The effigies do not often contain burials. One group, however, has been explored near Beloit. Two of the effigies in the group contained bodies which had been laid in rows, side by side, eight in number, on the surface of the ground, and then the effigy mound was erected over them. It is supposed that the effigy indicates the clan to which the persons belonged, but it is probable that the honor was bestowed upon some chief, and his family, or upon some band of warriors, but that it was not common to bury in this way. Dr. Cyrus Thomas has described several burial mounds which were excavated by his assistants near Prarie du Chien, in Crawford and Vernon Counties, Wis. One of these was stratified, first a layer of sand, next calcined bones, charcoal and ashes, burned hard, next clay burned to a brick, next a heap of bones, with charcoal and ashes. At the bottom was a pit, filled with chocolate colored dust. Another contained two rude walls, three feet high and eight feet long, between them a number of skeletons, lying flat, the skeleton being covered with a layer of mortar, this by a layer of clay and ashes, this again by a layer of clay, and then the top covering of sand and soil. Dr. J. E. Hoy has described a mound at Racine which contained a single skeleton in sitting posture. Dr. J. N. De-

Harte* describes one at Madison as containing several bodies, one above the other, all of them in sitting posture, and still another containing an altar at the base, but with no bodies.

III. The third district embraces the region about the great lakes, from Detroit on through Northern Ohio into New York State. This district was occupied by the military or warlike races, and the mounds have been called military works. The distinguishing peculiarity of the district is that there are so many remains of old stockades in it. These stockades are found in great numbers in the State of New York, but they are also seen on the south shore of Lake Erie, as at Conneaut, at Ashtabula, at Painesville, at Weymouth, south of Cleveland, at Detroit and many other points. The burial mounds of the district are for the most part simple conical tumuli, some of which may have been used as lookout stations as well as for burials. There are, however, a few large mounds, and these we shall speak of especially. There is at Detroit a massive burial mound, seven hundred feet long, four hundred feet wide, and not less than forty feet high. It is situated near the river Rouge, three miles below the city. Mr. Bela Hubbard says of it: "From the immense number of skeletons found in it and the mode of their occurrence, there can be but little doubt that it is one of those national sepulchres of the Huron and Algonquin tribes, where were deposited the remains of their dead. It affords certain evidence that cremation was practiced. Much charcoal and ashes were found, mingled with burned bones. With these were many pieces of large pots, but all broken. The mound contained so-called 'cellars' or 'altars'."

Here were also the celebrated perforated skulls, which have been so fully described by Mr. Henry Gillman, skulls which evidently belonged to a rude hunter or military race. The situation is such as would be chosen by the mound builders over all others. For a monument to their dead it is most picturesque. It was visible from a great distance in every direction and at the same time commanded a view of both the water and the land for many miles.†

The burial mounds in this region have a general resemblance. They are terrace-like embankments twenty or twenty-five feet in height, which run parallel with the river or lake shore. They are partly natural and partly artificial. They contain relics, the debris of camps, as well as burials. The bones taken from them are marked with platycnemism, showing that the people who dwelt here were hunters, since narrow, sharp shin bones are characteristic of hunters. The burial mounds of New York State differ from those of Michigan, in that they are conical tumuli, and are wholly artificial. Some of them contain modern

* American Antiquarian, Vol. I, Page 200.
†Memorials of Half a Century, by Bela Hubbard, p. 229.

BURIAL MOUNDS IN OHIO.

REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA

relics. They have been ascribed to the Iroquois, while those of Michigan belong to the Algonquins.*

Thus we see that in this district also the burial mounds served a double purpose; namely, of lookouts and as depositories for the dead. The bone burial seems to have been prevalent in the district. It is evident that there was also here a succession of races, but that all of the races were of a war-like character. Mr. Henry Gilman thinks that he has found traces of extreme antiquity, but others think that the burials were of modern races.

IV. The middle Mississippi district is next. This includes the works in the Missouri valley, as well as in Missouri, Arkansas, Western Tennessee and Southern Illinois. It is characterized by stone vaults or chambered tombs, by village sites with lodge circles and a few pyramidal mounds.

Prof. G. C. Broadhead has spoken of certain mounds in Pike County, Mo., which contain vaults constructed of lime stone. Two such vaults are described, one of them having a passage-way at the side. This one was nine feet square, and two to three

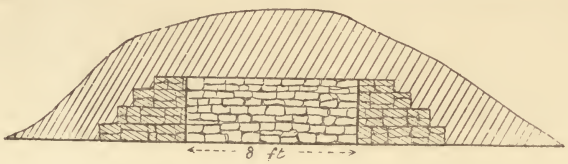


Fig. 15—Stone Vault in Missouri.

feet square. It contained a single chamber. See Fig. 15. He quotes, however, from a book published in 1823 (Beck's Gazetteer). It appears that a chambered structure, with two rectangular chambers, and an oval chamber between them, having no communication with the others was found. This was a stone structure, was entirely above the ground, and is anomalous in this respect. A similar structure. with four rooms, is also spoken of, one of the rooms (g) containing a few human bones, the other (h) having two entrances. See Fig. 16. Mr. E. B. West, of Kansas City, has discovered twenty-five mounds, located on the highest points of the Missouri bluffs, the most of them containing rock vaults. Prof. Broadhead has described three others which contained regularly built vaults, the walls being about three feet high, enclosing a space eight feet square, with right angles. The walls were built up with a regular perpendicular face, more true to the line than many so-called masons would place them, the layers of lime stone being very regular. The crypts appear to have been built above ground, and then to have been covered with earth afterwards. The vaults contained bodies in sitting posture, with knees bent, the hands resting on the knees.

*See Sixth Annual Report, Peabody Museum, page 13.

REESE LIBRARY

The vaults had openings or entrances, somewhat resembling the dolmens of Europe, though there are no such long passages as are there found.

Burial in vaults was common in this country. Paul Schumacher describes one found among the kitchen middens of the northwest coast,* which contained bodies in a recumbent posture. There are also chambered mounds in Ohio, Kentucky, Tennessee and West Virginia. These, however, are destitute of the stone work. They are vaults which have been built up by logs and covered over with poles; some of them also having a floor of logs or poles. The celebrated Grave Creek mound containdd two vaults, one above the other, constructed in this way. Squier and Davis discovered vaults in the burial mounds near Chillicothe, which were built of logs, and Prof. E. B. Andrews discovered another near Athens, O. Prof. Putnam found a vault constructed of logs in the Turner group in Tennessee. Dr. Cyrus Thomas has discovered one in Iowa which contained a stone vault which was arched overhead, the arch being formed by flat unworked stone, laid up without mortar, the layers of stone projecting over the vault until they reached the top, when a single flat stone was placed above as the final covering. In this vault was a single skeleton in sitting posture, with a small earthen vessel near him. The mound was found near the mouth of the Little Iowa. We call attention to this arched roof. It was not a true arch, but was such an arch as is common in various parts of the country. The Aztecs built arched corridors, but they built them in the same way that this rude vault, by projecting the layers of stone one above the other and projecting them out at the top until they met. The bee hive huts of Ireland were built in this way, but were without any earth covering. We call attention to the sitting posture in this vaulted tomb. It is the common posture in tombs of this kind. We give cuts of this which show how the vaults were built. Figs. 15 and 16. Prof. Swallow has described a chambered mound which is

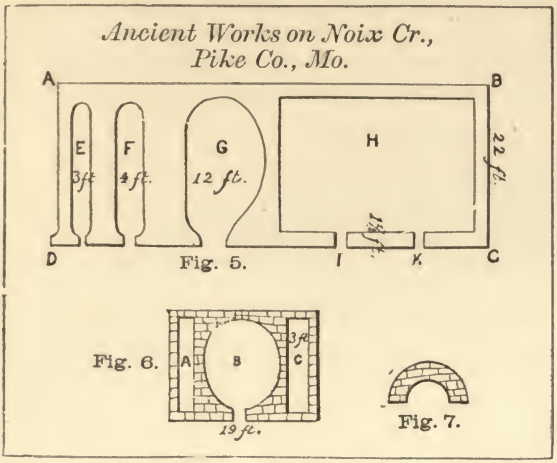


Fig. 16—Stone Vaults.

*See Smithsonian Report, 1873, p. 359.

very interesting. It is situated near New Madrid, and is called the Big Mound. It is elliptical in form, 600 feet in circumference, 20 feet high; it contained a room which was lathed and plastered, not as modern rooms are, for there was no nailing of the lath, and the plaster was of mud rather than of lime. The room was built by putting poles together like the rafters of a house, then placing split cane on the poles and applying mud-plaster outside and inside. The inside plaster was covered with red ochre. The earth of the mound was placed over the rafters. The room contained bones, pottery vessels, jars, discoidal stones, polished celts, chisels, stone axes. The pottery vessels were, many of them, made in the shape of idols, mainly females, in a squatting posture. A pipe of sandstone in the shape of a frog, One hoe of brown flint was very large, 11 inches by 5. These relics are pronounced by Professor Putman as belonging to the mound period. They resemble those found by Mr. Dunning in the Tennessee mounds. The pottery taken from the mound is the largest collection ever found in one place, and is very interesting, since it shows great skill in moulding pottery, and a great variety of form, too.

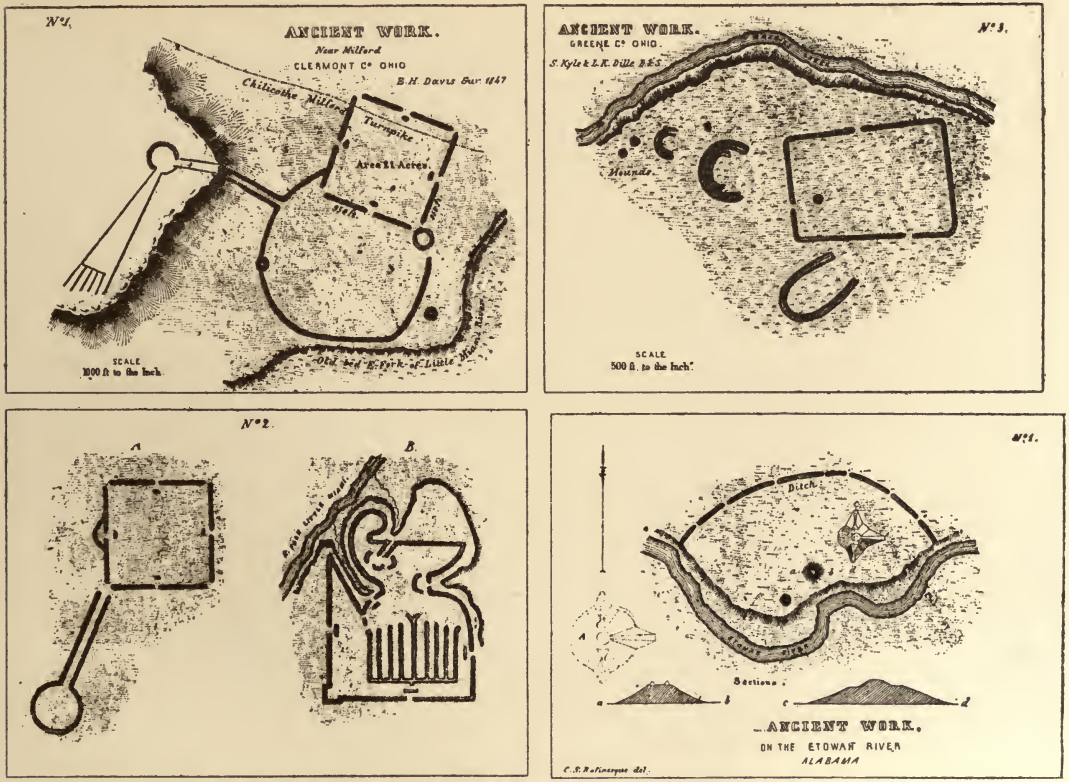
We find, here, an approach to the modern style of building rooms, at least an advanced type of prehistoric structures. Square chambers with straight walls were uncommon among the Mound-builders, although they were quite common among the Cliff Dwellers and Pueblos. The plastering of rooms or apartments was also uncommon, although many plastered rooms have been found among the Cliff Dwellers. It is possible there was a borrowing of ideas from the people of the west; and that the tombs, like the pottery, owed their shape to the contact which the people of Missouri had with these semi-civilized races. The pottery generally is without paint, but a few specimens have been found with painted ornamentation somewhat resembling the Pueblo pottery.

V. We now turn to the stone cists. These resemble the stone chambers, and might be classed with them, especially as the pottery found in connection with them is so similar. They are, however, found in another district, the district which is called Appalachian. These stone cists are, however, not confined to one district, but are scattered far and wide, some of them having been found in the State of Ohio, others in the State of Georgia, and many of them in Southern Illinois. In Georgia the stone cists have been found within the platform pyramids—a very singular circumstance, considing the probable age and origin of these pyramids. Dr. Cyrus Thomas speaks of this as an item of much interest to archæologists. He described one explored at Etowah, Barto County, which contained relics, although the

*See 8th Annual Report of Peabody Museum page 20, and 11th Annual Report page 316.

mound belonged to the southern type, as it was of modern origin. He thinks that these stone graves indicate a Shawnee or closely allied element, where we should expect to find only Creeks, or some branch of the Chahta-Muscogee family. He, however, draws the distinction between a small mound which was explored and the large platform mound which has become so celebrated, as well as between the relics contained in the small mound and those which were found in the large one. He states that the small mound contained relics which were not Cherokee in their origin. This would accord with history. The Shawnees were a very migratory tribe. They were found at one time on the Shawnee river in South Carolina; again on the Delaware river, and then on the Ohio river, in Shawneetown, and then on the Cumberland river, and at times wandered over Illinois. The stone graves seem to mark their track. Many of them were probably of modern origin, and their builders occupied the district subsequent to other tribes. The people who were buried with vases are to whom the largest number of earth-works belong.

As to the earth-works, we would say that there are many kinds, but the typical work is the square enclosure which contains burial mounds and pyramidal mounds in close contact, the pyramidal mounds having been the sites of the public edifices, either council houses or rotundas, but the burial mounds having been used by the clans which occupied the enclosure, one clan or tribe following another, making the burial mounds to contain a record of the succession of tribes. This is an interesting point. Tribes differ very much in their burial customs, and yet they resemble one another in the tribal organization and in domestic architecture so much that they could use the same earth works for defence and the same platform for council houses or rotundas, though the domiciliary mounds do not contain as distinct a record as the burial mounds.



"SACRED ENCLOSURES" NEAR WATER COURSES IN OHIO.

CHAPTER VI.

THE "SACRED ENCLOSURES" OF OHIO.

SUN WORSHIP AND SEPRENT WCRSHIP EMBODIED IN THEM.

In treating of the Mound-builders' works heretofore we have divided them into several classes, and have stated that the different classes were found in different districts, the effigy mounds in one, the burial mounds in another, the stockades in another, the so-called "sacred enclosures" in another, and the pyramid mounds in still another, the whole habitat being filled with works which were distinctive and peculiar, but which were always correlated to their surroundings.

It may seem singular to some that we should thus divide the earth-works into these different classes, and should confine each class to a limited district, making them so distinct from one another, but this only proves that the people who once inhabited the Mississippi valley, and whom we call Mound-builders, were far from being one people, but were very diverse in their character, and that their diversity expressed itself in their works, their religious belief, their tribal organization, their social customs, their domestic habits, their ethnic tastes, their modes of life, all having been embodied in the tokens which we are now studying. We are to bear this thought in mind while we proceed to consider the works which are said to belong to the fourth class, and which we have named "sacred enclosures". The region where these enclosures are most numerous is that which is situated on the Ohio River and more specifically in the southern part of the State of Ohio. We shall therefore confine ourselves to this district, but would at the same time have it understood that it is because the works are here so typical that we treat them so exclusively.

We propose in this chapter to consider the works of this district with the especial view of enquiring about their character and their uses.

I. Let us first enquire about the symbolism which is represented in them. The works of Southern Ohio have been regarded by many as symbolic, and the symbolism in them is said by some to be that expressive of sun worship. What is more, the sun worship which appeared here seems to have embodied itself in those works which were most common and which were also very useful, the enclosures which are so numerous here having been symbolic.

1. This, then, is our first enquiry, Is there anything in the shape

of the enclosures which should lead us to think that they were distinctive? There are many kinds of earth-works in Southern Ohio, many of which are of the same character as those found elsewhere, but the most of them are works which might be called enclosures. These enclosures have a great variety of shapes, and were undoubtedly used for different purposes, though the purposes are now somewhat difficult to determine. The typical shape is perhaps that of the square and circle, though there are many circles without squares and squares without circles, the variation passing from one figure to the other. Many of the enclosures are irregular, with no definite shape; others, however, have shapes which are so definite and regular as to give the idea that they were symbolic—the crescent, the circle, the horse-shoe, the ellipse, the cross, and many other symbols being embodied in them. Some of the enclosures are very large, the walls about them being several miles in length, giving the idea that they were used for defensive purposes; others are very small, the distance across them being only a few feet, giving the idea that they were lodge circles. Some of the enclosures are full of burial mounds; others contain no mounds whatever, but are mere open areas, areas which may have been used for village residences. Some of the enclosures are made up by single walls, walls on which possible stockades may have been erected; others have double walls, a ditch being between them. Some of them are isolated circles, enclosures separated from all others; others present circles in clusters, the clusters arranged in circles, so making an enclosure within an enclosure. It is remarkable that there should have been so many different shapes to the earth-works in this region. These shapes vary from the circle to the ellipse, from the ellipse to the oblong, from the oblong to the square, from the square to the large, irregular enclosure. A map of the region looks like a chart which contains all the geometric figures, and astonishes one when he thinks that these are earth-works containing areas, all of which were once used for practical purposes, and embodied the life of the people. See map of works in the Scioto valley. The uses to which these enclosures were subject are unknown; it is supposed that some of them were for defenses; others for villages; some of them were undoubtedly used for burial places; others for sacrificial purposes; some of them were the sites of houses, mere lodge circles; others were enclosures in which temples were undoubtedly erected; some of them were used as places of amusement, dance circles and race courses, others were probably used as places of religious assembly, estufas or sacred houses; some of them contain effigies, the effigies giving to them a religious significance.

2. The symbolic character of the enclosures is the next point of enquiry. This has impressed many writers; for this reason they have been called sacred enclosures. The term has been criticised

and rejected by some, but it seems to us appropriate, and we shall use it as being expressive of the real character of the works of the region. We take up the enclosures of this district with the idea that many of them were used for sacred purposes, and that a peculiar superstition was embodied in the most of them. What that superstition was we are not quite prepared to say, but the conjecture is that sun worship here obtained in great force. It sometimes seems as if the sun worship was joined with serpent worship, and that the phallic symbol was given by some of the earth-works. Whether these works were all used by one people, a people who were acquainted with all of the symbols spoken of, or were erected by successive races, one using one symbol and the other another, is a question. Be that as it may, we conclude that the district is full of earth-works which were symbolic in their character, and which are properly called sacred enclosures.

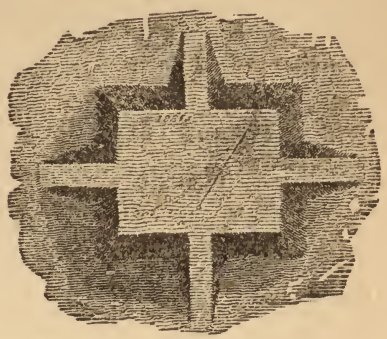


Fig. 1.—Platform at Marietta.

We give a series of cuts to illustrate these points. These are actual earth-works. One is the temple platform, found at Marietta (Fig. 1); the second is a platform with the adjoining circular enclosure, found at Highbank (Fig. 2); the third is the small circle with the small enclosure within it, found opposite Portsmouth (Fig. 3). These earth-works are all small, ranging from 50 to 150 feet in diameter. The fourth is the large double enclosure consisting of the square and circle, found at Circleville (Fig. 4); the fifth is the large octagon and circle, found at Newark (Fig. 5). The last two enclosures might be measured by rods, as there are about as many rods in them as there are feet in the former works. The map of the works at Portsmouth (Fig. 6) contains many other figures, viz: Four concentric circles at one end, two horse-shoe enclosures and circles in the center, a large square enclosure at the west end, the whole making a very elaborate and complicatd system of symbolic works, the religious element being everywhere manifest in the locality.

3. Let us next consider the symbols which we may regard as typical and peculiar to the district. We have said that there are different kinds of enclosures in this region, but the enclosure which is the most striking is the one composed of two figures—the circle and the square and combination. This is not only common in the district, but is peculiar to it, as it is very seldom seen elsewhere. The reasons for this particular type of earth-work being found in Southern Ohio are unknown. It would

seem, however, as if the people which formerly dwelt here had reached a particular stage of progress, had adopted a particular social organization, had practiced a particular set of customs, and had made these earth-works to be expressive of them. It sometimes seems also as if a peculiar religious cult had been adopted and that this was embodied and symbolized in the earth-works. The figures of the square and circle were probably symbolic, and the religion which was embodied in them was probably sun worship. How sun worship came to be adopted by the people is a mystery. It may have arisen in connection with serpent worship, the two having been the outgrowth of the natural superstition, and so might be pronounced to be indigenous in this region, or they may have been introduced from other and distant localities, either from Great Britain, by way of the Atlantic Ocean, or from the Asiatic continent, by way of the Pacific—Mexico and Central America having been the original starting point on this continent, and the cult having spread from the central place over the continent eastward. Prof. F. W. Putnam in his article on the great serpent takes the latter position, and says, "To this south-western region, with its many Asiatic features of art and faith, we are constantly forced by our investigations as we look for the source of the builders of the older works of the Ohio Valley." He refers, however, to the combination of natural features with artificial forms contained in the great serpent, and says this probably could not be found again in any part of the great route along which the people must have journeyed. He refers to the remarkable discovery by Dr. Phene of an interesting mound in Argyleshire, in Scotland, as containing the same elements, the natural hill and the artificial shape giving evidence of serpent worship in the serpent form, the altar or burial place at one end forming the head, and the standing stones along the ridge marking the serpent's spine. These facts would indicate that serpent worship in Ohio had come from Great Britain and had been first introduced by the mound-builders here. Possibly the serpent worship in Mexico may have been introduced from the other side by way of Polynesia.

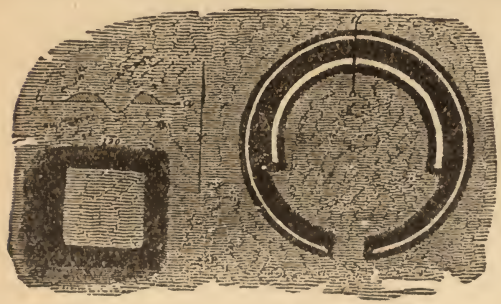


Fig. 2.—Platform and Circle at Highbank.

4. The inquiry which we are to institute next is whether serpent worship and sun worship in Ohio were not practiced by two classes of people, the one the successors to the other. This inquiry will be borne in mind as we proceed to the

description of the enclosures. The Natchez were sun worshipers. There is a tradition that the Natchez once inhabited Southern Ohio. The Dakotas had the serpent symbol among them. There is a tradition that the Dakotas once dwelt in Ohio. This would show that the two cults were successive rather than contemporaneous. It must be remembered that the symbolism of the early races of mound-builders was frequently combined with practical uses. The religion or superstition of the people required that defensive enclosures, as well as village sites, should embody the symbols as thoroughly as did the places of sacrifice or the burial places. The earth-works of Southern Ohio have been called sacred enclosures. If our supposition is true the term is a correct one. They were village enclosures, but were at the same time sacred to the sun. We shall take the enclosures which are typical and ask the question whether these were not the villages of sun worshippers.

5. Let us examine the district, and compare it with other districts where sun worship has existed. We learn about the district and its limits from the character of the earth-works. This particular class of earth-works which we are describing is only found in a limited district. We begin at the mouth of the Muskingum River, where are the interesting works of Marietta. This river has a number of enclosures upon it. We pass next to the Hocking Creek, where the enclosures are not so numerous, and yet the same class of works abound here. Next comes the Scioto River, with its very interesting series of earth works, those at Portsmouth, Chillicothe and Circleville being the most prominent. Paint Creek and Brush Creek flow into the Scioto. On these there are some very interesting earth works, the majority of them being village enclosures. Next to this is Adams County, the County in which the great serpent is situated, the Brush Creek in this county being different from that which flows into the Scioto. We then pass over two or three counties until we reach the Little Miami River. Here we find the remarkable fort called Fort Ancient, and at the mouth of the river, at Cincinnati, village enclosures. These enclosures are, to be sure, now destroyed, but descriptions of them have been preserved, and from these we find that they were very similar to those situated on Paint Creek and on the Scioto River. Passing still

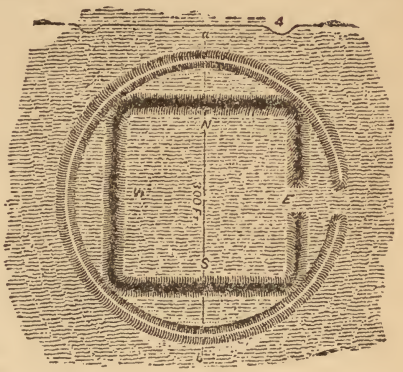


Fig. 3.—Circle at Portsmouth.

further to the west, we come to the Great Miami. The works on this river are mainly fortifications and large lookout mounds; the fortifications at Hamilton, Colerain and Piqua, and the lookout at Miamisburg, being most prominent. There are, however, at Alexandria and several other places village enclosures of exactly the same type as those found at Chillicothe. This takes us across the State of Ohio. The White River is a branch of the Great Miami. It rises in the central part of the State of Indiana and flows southeast. The White River seems to have marked the boundary of this particular class of works. There are no village enclosures of the type found in Ohio west of the White River. If there are, we are not aware of their existence. There are, to be sure, many large forts or defensive enclosures scattered along the Ohio River on both sides, but they are not works which we would call village enclosures. These forts have been described by various writers, the most prominent of them being the one in Clark County, near Charlestown, Ind., which has been described by Prof. E. T. Cox.* As to the northern boundary of the district, we find it on the watershed, where the rivers flow both ways, to the north and to the south. Here a line of earth-works is found extending across the State, about the same distance from the Ohio River. It makes a cordon of village enclosures, some of them being as important as any found in the State. Among these are the works at Circleville, Newark, Alexandersville, near Dayton, and the works on the White River, at Cambridge and New Garden, in Wayne County,† all of them being near the head of canoe navigation.

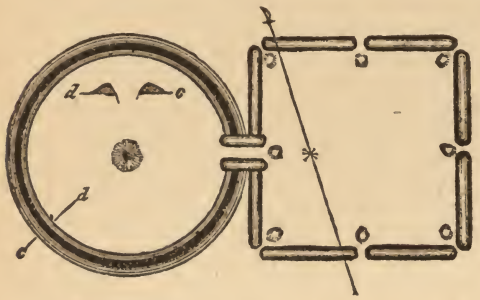


Fig. 4.—Circle and Square at Circleville.

We have thus given the map of the district. It is a map which thus includes all the earth-works—military, sacred, village enclosures, effigies, lookouts and all. We do not ascribe them all to one period nor to one race, but we speak of them as found in the district. The typical work is the enclosure, the village enclosures being more numerous than the defensive. We have thought best to call it by the name of the district of the village enclosures, though the term sacred enclosures is appropriate. We see in this map the locality which was occupied by sun worshipers. It is also a locality in which serpent worship appeared to be prevalent.

---

* See Geological Survey of Indiana, 1873, p. 122.
†See Geological Report of Indiana, 1878, description, Mr. J. C. McPherson.

6. Let us consider the symbolism in the shapes and sizes of the enclosures. We have said that the shape was that of the square and circle. This shape is everywhere present within the district, though with variations. It is remarkable that there should be such a uniformity. It does not seem likely that the uniformity would rise from accident, but it is more likely that there was a significance to it. The uniformity has impressed many authors. The early explorers all mention it as a very striking element in the earth-works of the region. There has been a degree of skepticism in reference to this point, but the recent survey by the Ethnological Bureau confirms the old impression. The statements of the early explorers are confirmed by the last survey. We give here a few fragmentary quotations to show that this is the case. The old authors claimed that the squares were perfect squares, the circles perfect circles. The new exploration seems to confirm this rather than to refute it. We take the enclosures in the Scioto Valley to illustrate. There are perhaps more typical works in this valley than anywhere else in the State. The following is the testimony of Dr. Thomas in reference to these. "The circle at Highbank is a perfect one." "The old survey agrees closely with the new survey." "The circles at Paint Creek have geometrical regularity." "The figures of the works which were personally examined by Squier and Davis are generally correct." "The circle at Highbank is similar in size and other respects to the observatory circle at Newark, and, like that, is connected with an octagon." "We see in this group the tendency to combine circles, octagons and parallels as at Newark, making it probable that the works at both points are due to one people. According to Messrs. Squier and Davis the circle is a perfect one. The diameter, which, as will be seen by what follows, agrees very closely with the results of the re-survey." "The somewhat unexpected results in this and the observatory circle are, first, that the figure is so nearly a true circle, and, second, that the radius is an almost exact multiple of the surveyor's chain." These remarkable admissions are made by one who denies their Euro-

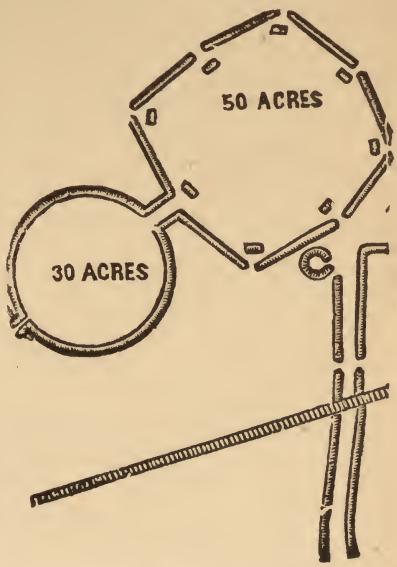
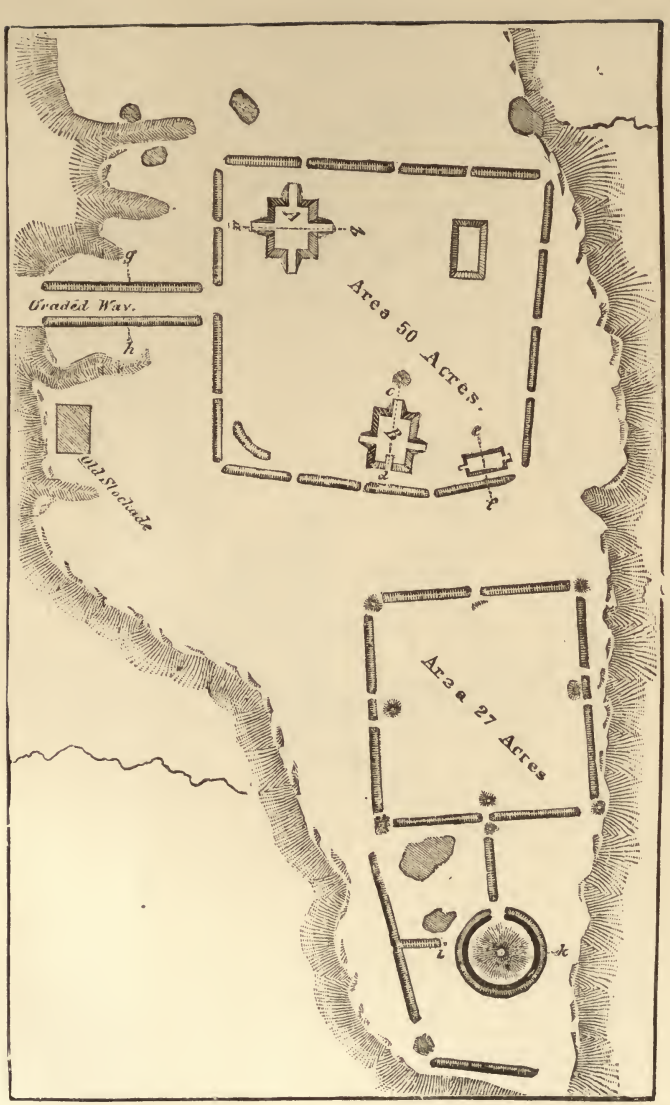


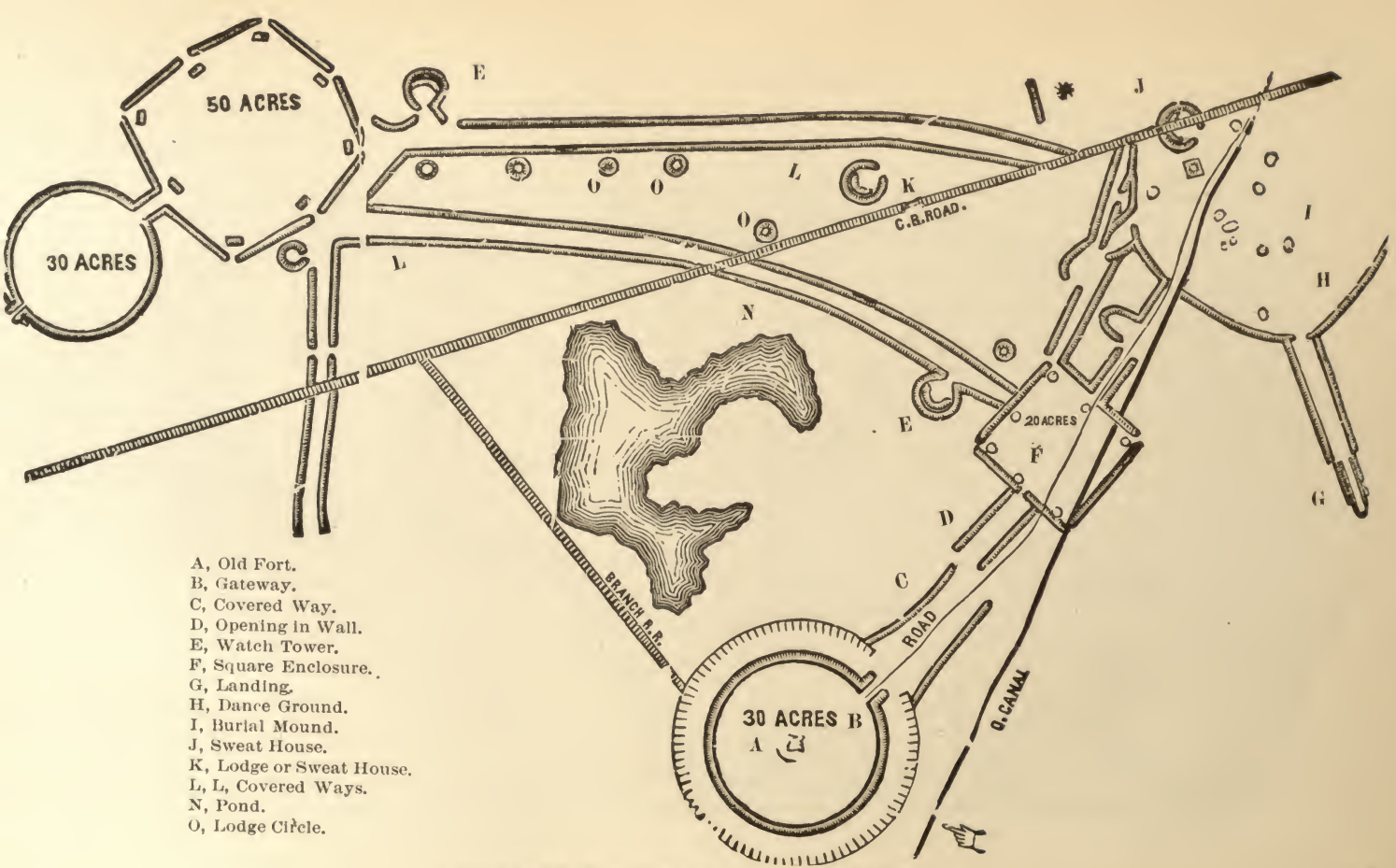
Fig. 5—Octagon and Circle at Newark.

pean origin and who makes them the work of Indians similar to the modern tribes, and who says there is nothing in the form or arrangement that is inconsistent with the Indian usages and ideas, and nothing in their form or construction consistent with the idea that their conception is due to European influence. With these admissions we are warranted in going back to the first descriptions which were given by the early explorers, and to speak of these works as perfect squares and perfect circles, and to draw our conclusions that they were symbolic as well as practical or useful structures. Mr. Atwater speaks of the circle in the village enclosures at Paint Creek, and says "the area of the squares was just twenty-seven acres." Squier and Davis also speak of this area of twenty-seven acres being a common one. The comparison is drawn by Squier and Davis between the works at Newark and those at Hopeton and Paint Creek. Extraordinary coincidences are exhibited between the details, though the works are seventy miles apart. He says the square has the same area with the rectangle belonging to the Hopeton works and with the octagon belonging to Highbank. The octagon has the same area with the large irregular square at Marietta, a place which is still further away from Newark. The conviction is forced upon us, notwithstanding all the skepticism that has existed, that there was a common measurement, and that the square and circle were symbolic, though we do not say whether they were erected by Indians or by some other people.

7. Another argument is found in the fact that walls in the shape of crescents are very common. These crescent-shaped walls are generally found inside of the smaller circle and constitute a double wall around a portion of the circle. There are also many works where there are concentric circles, containing a mound in the center, whose shape would indicate that it was devoted to sun worship and whose contents would prove that they were used for religious purposes. A notable specimen of this is found at Portsmouth, where there are four concentric circles and a mound in the center, the situation and height of the mound giving the impression to the early explorers that it was used for religious purposes and was a sun symbol. Concentric circles and circles containing crescents and mounds are also spoken of by Mr. Caleb Atwater as having been found at Paint Creek and at Circleville. The large irregular enclosure at one of these works contained seventy-seven acres, and had eight gateways, another had eighty-four acres and six gateways; but outside of one of these enclosures was a third circle sixty rods in diameter, in the center of which was a similar circle about six rods in diameter, or about one tenth of the larger circle. Here we have the large enclosures which were undoubtedly used for village sites, but at the same time we have small circles that were probably used for religious purposes.



MAP OF VILLAGE AT MARIETTA.



A, Old Fort.
B, Gateway.
C, Covered Way.
D, Opening in Wall.
E, Watch Tower.
F, Square Enclosure.
G, Landing.
H, Dance Ground.
I, Burial Mound.
J, Sweat House.
K, Lodge or Sweat House.
L, L, Covered Ways.
N, Pond.
O, Lodge Circle.

VILLAGE ENCLOSURES AT NEWARK.

Mr. Atwater thinks that the large circles were used for religious as well as for practical purposes. He speaks of the circle at Circleville. This was sixty-nine rods in diameter, the walls were twenty feet high, measuring from the bottom of the ditch, there being two walls, one inside of the other, with a ditch between. Within the circle there was a round mound, ten feet high, thirty feet in diameter at the top, and around the mound a crescent-shaped pavement made of pebbles, about sixty feet in diameter. This mound contained two bodies and a number of relics. A large burial mound ninety feet high stood outside of the circle. The contrast between the circle and the square atrracted the attention of Mr. Atwater. The circle had two high walls, the square only one. The circle had a ditch between the walls, the square had no ditch. The circle had only one gateway, the square had eight gateways. The circle was picketed, "half way up the inner walls was a place where a row of pickets stood, pickets which were used for the defense of the circle." These facts are significant. They seem to indicate that the villages were surrounded by walls which secured them from attack; but that there was a symbolism in the shape of the walls as well as in the shape of the mounds and pavements and contents of the mounds. In these respects the villages would be called sacred enclosures.

8. Still another argument is derived from the variation in the typical form. At Marietta we have two squares and no circle except as a circle surrounds the conical mound or lookout station. At Highbank and Hopeton we have the circle and the square, and several other small circles adjoining. At Liberty Township we have the square, three circles and a crescent. At Cedarbank we have a square with a platform inside of it, but no circle. At Newark we have the octagon instead of the square. At Clark's Works we have the square, a large irregular inclosure and the circle inside. At Seal Township we have the square and circle and several elliptical works. At Dunlap's Works we have the rhomboidal figure and a small circle adjoining. Still, the typical shape is the same throughout the entire region.

II. We now turn to a new point. The inquiry is whether the enclosures whieh we have seen to be so symbolic were not the village sites of a class of sun worshipers. This inquiry will be conducted in an entirely different way from the former. We are now to look not so much for the symbolic shapes as for the practical uses. We maintain that whether they were symbolic or not the majority of the enclosures were used for villages. We shall first consider the characteristics of village enclosures generally, show what a village was supposed to contain, and then compare these in Ohio with others to show that they were also village enclosures.

1. We turn to the Ohio villages, and are to ask what their

characteristics are. These were composed of the following elements: First, the circumvallation, including the gateways; second, the contents, including the platform mounds, burial mounds, excavations and other works; third, the lodge circles adjoining the village enclosures, some of them constituting a third part of the village, scarcely separated from the larger enclosures, some of them being quite remote from the village; fourth, the parallel walls or covered ways. These were a very important element in connection with the village life. Fifth, the so-called embankments, which Atwater says were enclosures for diversion or for games, many of which were found at an early day in the valley of the Scioto, but which had disappeared before the survey of the works took place; sixth, the circles which are gathered in clusters at certain points, remote from the villages, which we call the dance circles; seventh, the look-out mounds and observatories. These works were all associated and all served different parts in connection with village life. We see in them, 1st, provisions for defense, the circumvallation giving defense to the villages, the covered ways also protecting the people as they went to and from the villages to the water's edge; the lookouts on the summits of the hills furnishing defense for not only one village, but for many. We see, 2d, provisions for religion. The character of the earth-works is suggestive of religious practices. They are, many of them, enclosures, symbolical in shape, elliptical, circular, pyramidal. Some of them were probably temples, the truncated pyramids being the foundation platforms. The same office was filled by some of the smaller circles, for these were undoubtedly used for estufas, sweat houses, or assembly places, and many of them were convenient of access to the village enclosure. 3d. The provisions made for amusement, feasts, dances can be recognized in the oblong embankments and the groups of small circles. 4th. The provision made for water is found in numerous wells spoken of by the early explorers, and in the walls which surround them, and in certain ponds near the enclosures. 5th. Provision was made for safe cultivation of fields in covered ways which passed out from the enclosure to the open country, and in the watch towers which were placed at the ends of these. There were many openings in the covered way, which gave egress from the villages to the fields in every direction. 6th. Provision was made for navigation and the safety of the canoes by running the covered ways down to the water's edge, and there making a grade, which should be like a levee, for the landing of the canoes. All these peculiarities indicate plainly that village life was the factor which ruled. Everything was subservient to this.

If we take the number and sizes of the enclosures, and then look at their situation and all their surroundings, and consider the fertility of the plains in which they were located, we will

have a remarkable picture of village life. It seems almost like an Arcadia. The people seem to have been prosperous, and to have dwelt in peace and security. The population was dense. The organization was complete. Religion had its strong hold upon the people; the people lived and died and were buried with the sacred religious rites observed on all occasions. They filled their altars with offerings to the great sun divinity. The most costly sacrifices were made; pipes and beads, carved stone, pearls, many precious works of art were thus consecrated with great ceremonials. But the scene changed. The invasion of an enemy drove them from their seats. Their villages became the seats of bloody warfare. They were obliged to leave their abodes; other tribes came in and occupied their villages.

2. We now turn to the specific locations and give descriptions of the works. We first commence with the works at Marietta and quote the language of the Rev. Dr. Harris, who with Rev. Dr. Cutler, examined them and furnished a full description of it. The following is their account: The situation of these works is on an elevated plain on the east side of the Muskingum, about half a mile from its junction with the Ohio. The largest square fort, by some called the town, contains forty acres, encompassed by a wall of earth from six to ten feet high, and from twenty-five to thirty-six feet in breadth. In each side are three openings, resembling twelve gateways. A covered way formed of two parallel walls of earth 231 feet distant from each other, measuring from center to center. The walls at the most elevated part inside are twenty-one feet in height; the outside only average five feet in height. This formed a passage about 680 feet in length, leading by gradual descent to the low ground, where, at the time of its construction, it probably reached the river. The bottom is crowned in the center, in the manner of a well-founded turnpike road. Within the walls of the fort at the northwest corner is an elevated square 188 feet long, 132 broad, 9 high, level on the summit. At the center of each of the sides are gradual ascents sixty feet in length. Near the south wall is another elevated square, 150 by 120 feet, 8 feet high; but instead of an ascent to go up on the side next the wall, there is a hollow way, ten feet wide, leading twenty feet toward the center, with a gradual slope to the top. At the other end is a third elevated square, 108x54 feet, with ascents at the end. At the southwest corner is a semi-circular parapet crowned with a mound, which guards the opening in the wall. The smaller fort, contains twenty acres, with a gateway in the center of each corner. These gateways are defended by circular mounds. On the outside of the smaller fort is a mound in the form of a sugar loaf, of a magnitude and height which strike the beholder with astonishment. It base is a regular circle, 115 feet in diameter; its altitude is 30 feet. It is surrounded by a ditch 4 feet deep and 15 wide, and defended by a parapet 4 feet

LIBRARY

high, through which is a gateway towards the fort 20 feet in width.* See Plate.

The description of this one village will indicate the elements which were common in all the villages, the square enclosures, the graded ways, lookout mounds, protecting walls, wells, etc., being found in nearly every village.

It shows also the religious ideas which were embodied in many of the village enclosures, the platform mounds and the circle about the lookout mounds having probably been used as symbols as well as defenses. This same combination of symbols with defenses is seen more fully in the elaborate system of works found at Portsmouth. These works seem to have been erected for purely religious purposes, and we recognize many symbols in them, the square at one end, the concentric circle at the other end, and the horse-shoe, the crescent and several other symbols in the central group, the whole connected by a wall seven or eight miles long.

III. We now turn to the enclosures of Ohio, but are to consider them in their defensive capacity. There are three peculiarities to earth-works of this region, namely: the large majority of them are enclosures; second, many of the enclosures are symbolic in shape, the circle and square being the most prevalent symbol; third, the majority of the symbolic works are very strongly fortified, nearly every place which the sun worshipers occupied having been furnished with a strong and heavy earth wall, which served as a protection to them. The classification of the works of the sun worshipers reveals to us a great variety of uses, the most of them, however, being such uses as would be connected with village life. But with the uses we discover that defense was as much sought for as was convenience. It is remarkable that there were so many walled enclosures in this region, but the fact that there was danger always threatening the people from a lurking foe will account for these. They needed to defend themselves on all occasions, and so they never resorted to a place of worship or amusement, they never went to a sacrificial place, they never even went to the fields or to the water's edge, but that they must have a wall to protect them. We have dwelt upon the symbolism which was embodied in their works, but we might dwell even longer upon the view of the defense provided by them. It will suffice, however, to say that symbolism and defense were often united, the superstition about the symbol giving them a sense of security as much as the earth-works gave them actual safety. We have only to look at the different works found in any one locality to see the wonderful combination.

1. Let us ask what works there are and what uses we may dis-

*See Harris's Tour, p. 169.

cover in them. We have first the village defenses. This we see was always protected by a circumvallation. This circumvallation was generally in the shape of a square and a circle, but the circle was always protected by a high wall and sometimes by two such walls, and the openings in the wall of the square were always protected by a watch tower or additional platform guard on the inside. Second, there were near the villages many fortified hill-tops, places to which the villagers could resort in times of attack. These fortified hills were generally located in the midst of several villages, so that they could be easily reached by all. Third, the sacrificial places and the places of religious assembly were always provided with circumvallations or long covered ways. Nothing of a religious nature was ever undertaken unless the people could be protected by a wall. Fourth, we find that the sweat-houses, so-called, were always close by the village enclosure, but if, by any means, it was remote, there was always a covered way provided, so that it could be reached in safety from the village enclosure. Fifth, the same is true of the dance circles and places of amusement. These were sometimes remote from the village, but in all such cases there was a covered way between the village and the dance ground. Sixth, the fields were cultivated, but the fields were reached by passing through the parallels or covered ways, and lookout mounds or observatories were always provided to protect those at work and to sound the alarm to them. Seventh, there were landing places for canoes and places at which the villagers could reach the water's edge. These, however, were always protected by covered ways. Every village had its landing place, but nearly every landing place was furnished with a graded and a protected or covered way, the canoes being kept from the water and from the enemy by the same contrivance. Eighth, we find a few isolated enclosures. These are the parallels, supposed to have been used for races and other games. They, too, present the peculiarity of having a wall to protect them. The sacrificial or burial places were also isolated, but even the burial grounds were furnished with heavy earth-walls or circumvallations. The lookouts were also at times isolated from the villages, but even the lookout mounds were surrounded with circles to protect them, and some of them were connected with the village sites by covered ways. It would seem as if the people were not willing even to trust their sentinels or watchmen to the open fields or to risk the chance of his reaching an enclosure by rapid flight, but even he must be protected by a wall or covered way.

This presents a new view of the earth-works of the region. It shows that the people realized their danger; that while they were peaceable themselves and were given to agriculture and to a peculiar religious cult, yet they were in the midst of a savage foe which was always lurking near. They remind us in this

respect of the people who dwelt in the terraced villages of the West. They lived in villages and were peaceful and industrious, but needed always to guard their villages from sudden attack. The mound-builders of Ohio, then, and the Indians of later times were plainly very different from one another.

Fig. 6.—Works at Portsmouth, showing the Sun Circle, the Horse-shoe and Other Symbols.

The forts differ among themselves in many respects. Those which were erected by the original Mound-builders—that is, the Mound-builders who occupied the village enclosures—are much more elaborate thrn those built by the later tribes. The writer has discovered three classes of forts in this region. The first class belongs to village mound-builders, the second to mound-builders who were serpent-worshipers, the third to the race of

stockade builders. Each class had its own peculiar way of erecting fortifications. The fortifications are more distinctive in reality than village enclosures. The enclosures may have been occupied by two or three successive populations, the one erecting the walls and giving to the enclosures the peculiar symbolic form of the square and circle, the other occupying the circles but placing within them, as signs of their presence, some particular effigy. The great serpent probably belongs to this race, the third race, who erected the stockade forts, but put no symbolism into their works. The distinction between the first two is that one was a race of sun worshipers and the other of serpent worshipers, the sun symbol being frequently embodied in the earth works which are connected with the village enclosures, but the serpent symbols being embodied in the walls which surrounded the fortifications built by the other race. We have the two classes represented in a single fort, that at Fort Ancient. The upper fort, which is called the new fort, but which in reality may have been the older of the two, has all the characteristics of the village enclosures. It walls are high and angular, well defined and furnished with massive gateways, all showing a high degree of architectural skill, the crescent being the only symbol contained within it. The lower or southern fort, which is called the old fort, differs from this in all respects. The walls are ruder, the gateways smaller, the scene wilder, and the symbolism stranger and more mysterious. This part, the writer maintains, embodied the symbol of the serpent in its walls, the superstition of the people being that the form of the serpent in some way gave protection to the people. We ascribe to the first class, that is, to the village people, the forts at Bourneville, at Hamilton, at Massey's Creek, and on the north fork of Paint Creek, called Clark's Works; to the second class, we ascribe the Colerain Works and the fort north of Hamilton, leaving the Fort Hill, in Highland County, doubtful; to the third class—the stockade builders—we ascribe the fort near Granville, those at Four-mile Creek and Seven-mile Creek and Big Run, and several of the works near Hamilton, in Butler County. The peculiarity of the forts of the village people is that there were very elaborate gateways, the walls being very sharply defined, and having re-entering angles, some of them being provided with double and triple earth works as guards for the entrances. Two of the entrances are furnished with what is called the Tlascalan gateway, and the other furnished with a most elaborate system of embankments, six different semi-circular walls being arranged around a single opening, to protect it from the entrance of an enemy. The gateways of the race of serpent-worshipers were provided with walls in the shape of serpents, and serpents' heads, but with no other contrivances except this symbol to guard them.

This brief review of the forts as related to the symbolism

will give to us an idea as to the great variety of earth works found in Southern Ohio. They are all of them enclosures, some of them having been used for defenses, others for villages, others for burial places, others as council houses, and as dance circles, and a few perhaps merely as symbols. The peculiarity of all is that they have earth walls which enclose areas, though there are conical mounds or solid structures either in the areas or on high land overlooking the areas. These enclosures bring before us a picture of the native society as it once existed. It is evident that the population at one time was very dense, probably much denser in the time of the early mound-builders than at any time since. The people were then in a peaceful and sedentary condition. They were agriculturists. They placed their villages in the midst of the rich agricultural country and surrounded them with walls, and in some cases built walls which would, in a measure, surround their fields, or at least protect the people in going to and from them. The forts were placed in the midst of their villages on high ground, where there would be a natural defense, the cliffs being precipitous. In case of a sudden incursion the people might leave their villages and resort to the forts. Their villages were situated upon the rivers and were connected with the river's bank by covered ways. They navigated the rivers by canoes and had landing places for them near their villages. Their villages were sometimes close together, giving the idea that the clans inhabiting them were friendly to one another. At other times the villages are isolated and wide apart, giving the idea that the people sought room for hunting as well as fertile spots for agriculture. The villages, however, were all walled and the most of them had walled approaches, giving the idea that they were liable to be attacked by a lurking foe, and that they continued their pursuits with this constant sense of danger in their minds. Everything impresses us with the thought that the Indians were foes to the mound-builders, and that the mound-builders were well acquainted with Indian ways, the two classes —Indians and mound-builders—being very similar in their ways and modes of life, though their symbolism was different.

STONE GRAVES IN FORT ANCIENT, OHIO.

BEE-HIVE TOMBS IN CALDWELL COUNTY. N. C.

CHAPTER VII.

THE STONE GRAVE PEOPLE.

One of the signs of the progress which archæology is making in this country is that so many new fields are constantly opening and so many new discoveries are being made; but the old problems are returning for new solutions. This is as it should be. The science is one that can not be finished in a day, nor can we even hope to safely lay its foundations until many facts have been accumulated and the material which is gathered has been well sifted. The student may be slow in passing over the rudiments, but it is very likely that his scholarship will be all the better and the results in the end be surer and more satisfactory if he often returns to the same lesson. This is especially true of the Mound-builder problem. So many have inclined to jump at conclusions in reference to this question, so many have advanced theories without waiting for sufficient evidence to substantiate their positions, that it seems hopeful when new facts are brought to light and the old subject is brought up again for reconsideration.

We are to speak in this paper of the stone grave people, but would, before we begin, call attention to the various opinions which have been advanced in reference to them. A few years ago, when their works were first discovered, it was reported that a race of pigmies had been found. The report, of course, excited much curiosity, and it was thought that a great mystery had been uncovered. The process of investigation, however, went on, and it was soon ascertained that the pigmies were only the children of people who had been accustomed to bury in graves made from stone slabs, but they were people like other aborigines in America. The mystery, however, had scarcely been cleared up and the error corrected before there arose another opinion, which also excited much attention. This opinion was at the time advocated by persons in authority, and was therefore quite generally adopted. It was at the opposite extreme from the one which preceded it. There was now no mystery about the Mound-builders; they were only common Indians. We must class them all with the aborigines. The stone graves belonged to one tribe of Indians. The Mound-builders of Ohio were another tribe, the Cherokees.

A third stage of investigation, however, is now before us, and the same problem is coming up again for solution. It yet remains

to be seen how much of truth there is in the position last taken and whether any of it really deserves to go into history, or whether some other position is yet to be reached, which will prove more satisfactory and some conclusion which shall be more permanent. The pendulum which has been swinging backward and forward may indeed mark progress, but we are not certain about the significance of the figure on the dial. It certainly may be doubted whether the clock has yet reached the striking place, nor have we reached any permanent conclusion. Many new discoveries have recently been made, new fields have been opened, and various books and publications have appeared, and now the whole subject is again up for contention.

An array of new facts is before us, and we may expect the opinion to turn towards new evidence. The Mound-builders were an ancient people. They resembled the modern Indians, but the Mound-builders' period was distinctive. One error was detected when it was proved that the Mound-builders were not a civilized people, but another error came to the surface when it was maintained that the modern Indian is the only representative of the mound-building period. The truth is between them; neither in the civilized nor in savage races do we find the picture for which we are seeking. The Mound-builder belongs to neither of these classes, but their real status was between the two extremes. Three periods may be ascribed to the prehistoric age in America. First comes the paleolithic period, with its rude condition; next comes the mound-building period, with its varied record; lastly, the period of the red Indian; then comes the date of history. History treats of the modern races, ethnology may treat of the more ancient peoples, but the science of archæology has much in store which may modify our conclusions. The living tribes have but recently disappeared, other tribes preceded them, and the record goes back into the remote centuries. We have not by any means reached the end of our studies Things are to be discovered that have not yet been put on the record. The Mound-builder problem is not solved. New factors are constantly coming up and we leave ourselves open to new evidence.

We not only go back of the historic period and look for the prehistoric races which have left their tokens on the soil, but we are also to go back of one prehistoric period and find the traces of a period and race which still preceded them, and so make the record complete. While ethnology, treating of the living tribes, may help us to understand the character of the tribes and races which preceded them, the archæological tokens are to be most relied upon for our evidence. The archæological evidence is to be sifted, and we are to discriminate until we shall know the differences between all the races. It does not seem to be so important to identify any known tribe with the tokens of any one

locality, or to distinguish between the tribes and races which may have occupied each locality, and make the characteristics of each our especial study.

The present chapter is devoted to a single class of people, to a single period of occupation, to a particular type of aboriginal civilization, and to a particular locality, and yet there are many questions which arise in connection with them. We have chosen the stone grave people for our study. Some may think them modern, and imagine we are studying the works of historic Indians. Others consider them purely prehistoric and illustrative of one phase of prehistoric civilization. They are, however, only one out of many. The soil of America is filled with the records of many such races. Our work is to study the records and to see the difference between them.

The subdivision of the Mound-builders' territory, and the distinction between the mound-building classes, we may regard as already established, and the succession of races in each locality is rapidly becoming recognized, and we may expect soon to distinguish the races and to recognize not only the periods but also to see the diversity which existed among the races. We go back of the historic period to ascertain the origin of the American Indians, but we go back of one prehistoric period to the tokens of another to ascertain the origin of the Mound-builders. But after all this, we know very little about the peopling of America. Perhaps we shall find that the races were autochthonous in this country, and trace the clue back from the Indians to the stone graves, and from the stone graves to the mounds and shell heaps, and from the mounds and shell heaps to the cave-dwellings, and from the cave-dwellings to the gravel beds, but for the present we wait for evidence. Possibly we may trace the population of this country to other lands and be led to recognize the waves of migration in the very relics which have been left beneath the surface. We leave ourselves open to conviction in either direction. We welcome the new discoveries and wait for the solution of the many problems.

Our subject will lead us first tc a view of the habitat of this people; second, to the study of their characteristics, especially as they are made known by their relics; third, to the question of portraits, especially as it is brought before us by their pottery; fourth, to an examination of their symbols; fifth, to the enquiry whether we have evidence of a foreign origin and race connection.

The subject is somewhat difficult, the facts are remote, but the points are suggestive and the discussion interesting. We would say, however, that we have been greatly aided by the perusal of the pages of that interesting book which has been prepared by Gates P. Thruston, who has made a close study of the works and relics of this people, and we shall quote from the book, seeking, however, to give credit for all the essential facts and discoveries.

I. As to the habitat of the stone grave people, we have already said that this was to be found mainly in Middle Tennessee and in the valley of the Cumberland, though it may be supposed to have extended in either direction and possibly reached even the adjoining states. It was a peculiarly isolated region, remote from the routes of the early explorers, and for this reason its inhabitants for many years remained without notice from the historians. We are impressed with several facts in reference to the territory. (1) It was peculiarly favorable to the development of an aboriginal condition, such as is now found represented by the works and relics which are being studied so attentively. (2) It was a region which was occupied at different periods by a homogenous population, who for the most part followed the same general mode of life and filled about the same grade of civilization. (3) It was a region through which the different populations of the Gulf States made their way northward into the valley of the Ohio, leaving on their way the tokens of their presence. (4) It was a region in which peculiar tribal customs seemed to have grown up and become established. (5) It was a region in which the tokens of a teeming population abound in unusual numbers, and therefore furnishes a very favorable field of investigation. (6) It is a region where pyramids of an inferior kind were associated with lodge circles and fortified village sites, but where the burial places took a peculiar character. (7) It was the region which, though lying between the habitat of the historic tribes of Indians —the Cherokees and Natchez—had a population which, so far as tribal history is concerned, may be regarded as still unknown. (8) It was a habitat which was once occupied by a peaceable and sedentary people, but was invaded by a savage foe sometime about the date of the opening of history,—a foe which was probably allied to the red Indian hunters of the north, and who may have been the Shawnees, who were themselves late comers in the Mississippi Valley, but who never reached the grade of the civilization of the people whose territory they invaded. (9) It is a region in which the Alleghans or Cherokees, the Algonkins or Shawnees, and the Natchez or Chickasaws, a branch of the Muskogees, were once the occupants, all of them belonging to different races. (10) It is a region full of the Mound-builder symbols. We shall take these points, its isolation, the obscurity of history concerning it, the evidence of growth and development during prehistoric times, and the abundance of archæological tokens, as being proof that the people belonged to the mound-building period, and that their territory constituted one more division of mound-building territory. We are, to be sure, now among the southern mound-builders' type, and yet it is a type which is not found elsewhere.

Such are the impressions which we have gained from a study of the locality and its tokens. There are, however, impressions

which others have also gained, and we here take pleasure in quoting the opinions of the various authors who have written on the subject, thus giving both sides, and leaving the reader to judge for himself.

The following words from General Thruston's book will express one thought now before us: "About fifty years after the discovery, DeSoto and his army (in 1540 A. D.) pushed along its southern border, rudely startling the native inhabitants, but they passed on across the great river and probably never came within the actual borders of Tennessee. A hundred and thirty years then elapsed and no European stepped within its limits. In 1673 Marquette came in his shallow bark, floating down upon the broad waters, its first white explorer. Nearly another century intervened before the hardy pioneer of Virginia scaled the mountain or Daniel Boone started on 'the wilderness trail' for the far west. In all these years Tennessee, infolded in her ancient forests and mountain barriers, in her isolation, remote from lake, ocean and gulf, was as unknown to the outer world as Central Africa. France claimed her territory as a part of Louisiana and Illinois, Spain called it Florida and set up her right, England assumed sovereignty over it as a part of Virginia and California; but none of them took possession. Even the Indians had to fight for their titles. Vincennes in Indiana, Kaskaskia in Illinois, and New Orleans were founded; Texas and Missouri were colonized; Santa Fé in New Mexico, a thousand miles to the west, had become an old Spanish town; yet Tennessee was still without a name or description, save that it was marked on the New World's maps as the unexplored land of the Shawnees. These facts are stated to show how little history can tell us directly of ancient Tennessee or of the stone grave race."

Fig. 1.—Wolf's Head.

The same author has spoken of the rise and fall of that peculiar grade of civilization which found its embodiment in the stone graves in the following words: "The primitive manifestations of industry and art found among the remains in the Cumberland and Tennessee Valleys and in adjacent States were evidently in the main of indigenous growth. They may have been the result of centuries of gradual development within these borders, or

they may have had an origin in part through migration or intertribal intercourse from the sedentary or village Indians of New or Old Mexico. We are inclined to the latter view. It is difficult to ascertain the exact relation of the stone grave race of Tennessee and its kindred of the neighboring States to the historic red Indians." Whether the fort-builders and pottery-makers of the Cumberland and of the Tennessee were overwhelmed and dispersed, and became practically extinct, or whether they were absorbed by the more powerful and savage conquerors and became members of the Shawnees, Natchez or other tribes by adoption, may never be known. There is no mystery in the disappearance of some of the mound-building aborigines. Scores of tribes have become extinct during the last three centuries. The Shawnees have had a pathetic history. Dr. Brinton calls them the "Gypsies of the forest." Their eccentric wanderings, their sudden appearance and disappearance, perplex the antiquarian and defy research. We first find them in actual history about the year 1660 along the Tennessee and Cumberland Rivers. For a century or more they held their sway. Their territory extended from the Ohio to the Tennessee, but they were never in security. They were never at peace. The Iroquois preyed upon them from the north, the Chickasaws and Choctaws from the south and the Cherokees from the east, until they were finally overwhelmed and scattered, and fled beyond the Ohio. For sixty years before its first settlement by the whites Tennessee was an uninhabited wilderness. Such is the history of the region which we call the habitat of the stone grave people—a history, however, which contrasts with the archæology of the same region.

Fig. 2.—Pottery Portrait from Stone Grave.

The same author says: "Passing from the brief historical view to the interesting problems attaching to the origin of the ancient mound and grave builders of Tennessee, their race relation, their tribal affinities, and their culture status in the scale of civilization, as represented by their monuments and art, we enter upon

more uncertain ground. The stone graves are not always found in cemeteries or large groups. Their location upon almost every farm in the central counties indicates not only the presence of a very large population, but that it was generally widely distributed throughout the country, probably in peaceful settlements through a long period of time, thus doubtless enabling the ancient race to make progress in the simpler arts and industries beyond the status of the more savage tribes."

II. We ask, in view of these facts, whether we shall class the stone grave people with the historic Indians or with the prehistoric? whether the facts of archæology do not lead us to a period more remote than that of which history has the record, and to identify the people with the ancient mound-builders rather than with any known tribe of historic Indians?

Fig. 3.—Portrait Pipe, Indian.

We here call attention to the description of the relics and implements abounding in East Tennessee. Many of the ancient flint pits and quarries, and the remains of the old work-shops, are still to be seen. Flint, jasper, chert and silicious limestone were generally used, but arrows and implements are found of chalcedony, transparent quartz, and quartziferous and other stone. Fine examples of the work of the old arrow-makers are shown. They are similar to the delicate arrow-points found in Mexico and along the Pacific coast. There seems to be no limit to the arrow-points. The village Indians, who dwelt in forts, towns and settlements, must have been sufficiently advanced to have known the use of a variety of implements. Sets of tools of chipped and polished stone, evidently the outfit of some ancient lapsidary or artisan, are occasionally found lying together in the same grave. Caches of new flints or cherts in large numbers are also found, apparently just as they left the worshop of some old "stone chipper". Eight well made implements of various forms, all polished by use, were found in a

grave, lying beside three useful implements of bone. Another set, mainly sharp stone chisels and a horn handle, with a deep socket, were found in a neighboring grave. An agricultural hoe of flinty chert, 8 inches long, is in Mr. J. G. Cisco's collection. A large, perfect, fan-shaped axe or adze, 12½ inches long and 8 wide, was found in Stewart County. A handsome leaf-shaped implement from Davidson County is nearly 14 inches long. It is a turtle-back, or adze-shaped. A paddle-shaped flint, glossy with use at the blade end, is 10½ inches long and very symmetrical, slightly curved or adze-shaped, is as delicately chipped as any spear-head. Many scrapers, spoon-shaped, with blunt ends and concave at one side, are discovered. Chipped stone chisels, chipped to a sharp edge, with square corners at the blade and notched at the upper end, and other chisels with the handle end

Fig. 4.—Pottery Portrait from Arkansas.

rounded as if for holding in the hands, are shown. A set of five chisels that evidently had handles of wood, sharp as a table-knife at the blade end, is described. These flint types seem to indicate a condition of society and of the industrial arts above the ordinary stone hammer and spear stage of barbarism. A flint knife 7 inches long, and the horn handle, the end pierced with holes, in which the string was fastened to that, aided in binding the knife, were found in a grave near Nashville. Other knives, with round curved edge and notched at the end; stone hatchets, with wide spreading flanges at the blade ends; others with curved edges and straight sides, designed for hafting. Flint daggers with long tapering blade, and guards above the blade, like dirk knives of modern style, are seen. A double-barbed spear-head, one notched; a sword made from chipped flint, 22 inches long and 2 inches wide, was found beside a skeleton, put within the very bones of the hand, as if a tribute to his rank or as a badge of distinction in the spirit-land. A scepter fourteen inches long, and another seventeen inches and three quarters long and

three and a half inches wide, evidently emblems of authority, are described.

The only flint implements in America, north of Mexico, rivalling these fine implements from Tennessee have been discovered in the ancient graves of the California Indians, but the largest one of these is only 9¾ inches long, though one from Oregon is said to be 13 inches long. Three magnificent chipped stone implements, with ornamented handles, were found in a cache together. They offer direct and very positive evidence that they were used for ceremonial purposes of a religious, military or public character—the scepters or royal maces once used by the magnates of the race that built the ancient mounds and fortifications of Middle Tennessee. The most distinguished personage

Fig. 5.—Stone Image from Clarksville, Tennessee.

of the stone grave race yet identified—the honored chieftain or priest whose remains were unearthed in the Harpeth River, was placed in his sarcophagus with a large flint sword in his right hand.

The totem marks, the number of feather plumes, the battle-axe or war-club, the engraved brooch plates, the upholding of the pipe of peace, were ensignia or symbols of rank or authority everywhere used and respected. A fine scepter, a splendid specimen of ancient art, wider at the hilt points, and shorter in the blade, but finely decorated with curved or crescent-shaped guards, is described. It was not intended for cutlery, but was probably used as a halberd or mace. Mr. Thruston says: We have never seen a specimen of aboriginal art from the valley of the Mississippi superior to this fine flint. It was found twenty miles north of Nashville, near the ancient fortifications situated there.

REESE LIBRARY OF THE UNIVERSITY

Such are the relics which have recently been discovered and which have been described in this new and valuable book. We ask again, in view of this, whether we shall not conclude that the stone grave people belonged to that class of mound-builders which was superior to the red hunter Indian, and that the theory about the Shawnees being their fabricators is a mistaken one.

III. The same impression is also drawn from an examination of the pottery portraits. We may say that in no part of the country has so much pottery been found as in this district. The only other district in which any similar amount has been found is that which is situated immediately west and northwest of this, in Arkansas and Missouri—New Madrid, Missouri, being the chief seat of the ancient pottery-makers. Many authors

Fig.6.—Female Portrait.

Fig. 7.—Male Portrait.

have spoken of this fact as if it was significant. The general impression seems to be that the people of the two districts were in the same general grade of culture and had reached the same stage of art. How this can be reconciled with the theory that the stone grave people were Shawnees we do not undertake to say. There is no evidence of the use of the wheel or lathe. The ware is hand made. Clay trowels were used in smoothing and rounding the open vessels. The vitreous glaze was unknown to the potters. In this respect, the pottery of the Mound-builders differed from that of Central America The Pueblo Indians had no knowledge of it, but the ancient ware of Mexico shows this. The pottery from the stone graves was hardened by fire. Some of the vessels ring as if they were made of metal. The decline of the potters' art among historic tribes is well known. The wild Indians do not often manufacture pottery, but the Pueblo Indians still continue the art. The stone grave people seem to have had much skill in decorating pottery. They used pigment dyes in giving different colors to the clay, and they burned different colors into the vessels. Many

of the specimens of pottery are decorated with animal figures. They show much skill in imitating animal life. One specimen is described by Gen. Thruston. The cut is furnished to illustrate this paper. It represents a panther or wolf, or some animal that is suggestive of ferocity. See Fig. 1. The majority of the specimens of pottery are those which were used for domestic purposes, though there are pipes and other articles which are made of pottery and are highly ornamental.

Domestic pottery comprised all kinds of vessels, some of them in the shape of urns, bowls, pots, vases, shallow dishes, deep

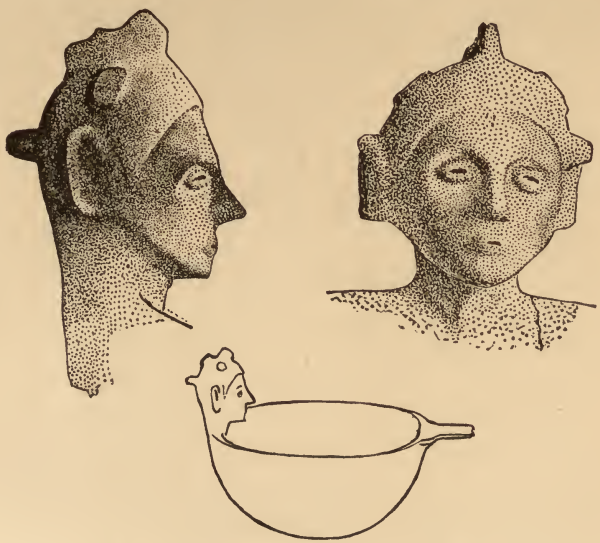


Fig. 8.—Heads Used as Handles for Dishes.

dishes, bottles, jars, vessels for cooking food as well as for holding water, and for other domestic purposes. It would seem as if the domestic life of the people was brought before us by this pottery which was burned with the bodies. There are also many jars and other vessels which were made in imitative shape, the ordinary wild animals and wild fowls being the objects most commonly imitated. There are many pottery vessels, however, which might be called idols, as they are in the shape of human images. These images are very interesting as objects of study, as they furnish an idea as to the different types of faces which were probably common among the people of this region. We notice that some of these faces resemble the modern Indian of the northern type; others are very different, however, from any Indian face which is likely to be recognized in these days. The question arises whether these faces all belong to one people or were they proofs of a great mixture in the population of

those days. We call attention to the contrasts between the faces. We take the terra cotta head from the cemetery at Nashville and the female head from the same cemetery, and place them alongside of the image pipe found near Kingston, Tennessee, representing a kneeling human figure. See Figs. 2 and 3. The contrast between these faces will, we think, be recognized at once. "The material of which the pipe is composed is reddish-brown stone, probably jasper. It is eight inches in height. The head-dress is unique and remarkable. The face is peculiar, and is sombre in expression, but the high cheek bones and long nose seem to represent the red Indian type. The long, pointed ear-rings on each side are well carved and original." The difference between the pottery faces from the cemetery

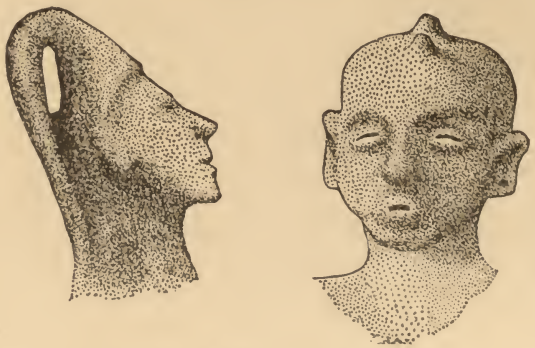


Fig. 9.—Pottery Heads Used as Handles.

and the pipe portrait, we think, will illustrate the point we are arguing. The southern mound-builders, whoever they were, seem to belong to a different race from the ordinary Indians. We would take one face to be the face of a Briton and not a North American Indian, and the question arises whether some of these southern tribes may not yet be traced back to the early Britons or Basques.

Two other faces are presented for examination. We call attention to the contrasts between them. One of these is found on the surface of a bowl discovered in a mound on the St. Francis River in Arkansas. See Fig. 4. It is called the "Riggs" face bowl, from the name of the person who first discovered it. A large image of marble or crystalline lime-stone was found by Mr. H. L. Johnson, of Clarksville, Tennessee. See Fig. 5. The features of the face are the heavy, Ethiopian cast. Other images similar to this, with still more marked Ethiopian or Aztec features, have been described and depicted by Mr. Thruston in his book. The question which we ask in connection with these four pictures is whether there was not a difference between the idols and the portraits, each of them being significant of a dis-

tinct race, the vases being of the ancient type and the portrait pipes being modern Indian. Two more figures are presented, one of them a terra cotta image, with the face of a female, quite delicate in feature—a handsome face; the other a strong, manly face; both are from the stone graves. See Figs. 6 and 7. They show the features of the people. Three more terra cotta heads are presented in the next cuts. See Figs. 8 and 9. These are the handles of terra cotta bowls, modeled in imitation of the human head. They are valuable as illustrating two or three important points. They may not have been exact imitations of the faces of the stone grave people, yet we think that they give some idea as to how these people looked. They also show the style of head-dress which was common among the people.

Fig. 10.—Pottery Heads Used as Handles.

The head-dresses in the pottery handles are apparently full of symbols, and what is more the symbols are very similar to those found in the shell gorgets and have a general resemblance to those discovered in Mexico and Central America.

We ask the question, in view of these portraits and the imitative skill which they exhibit, whether any northern Indian of the hunter class was likely to have been the manufacturer of them. We ask further whether the contrast in the features does not lead us to the recognition of different races among the mound-builders? Shall we not trace the races back to different stocks and families, some of them to the Mongolians, some of them to the Basques, some of them to the Malays.

IV. We now come to the evidence furnished by the burial customs. (1) The first fact which is brought to our attention is that a new material seems to be used in the structures. In all other districts earth was the material employed, but here stone seems to have been used. The structures of the Mound-builders are generally earth-works. Earth is the material used

even in the tombs, the large majority of the burial mounds, especially in the northern districts, having been constructed of mere earth, some of them stratified and some of them unstratified. There are, to be sure, burial mounds in Ohio which contain within them chambers formed from logs, the dead having been placed in these as if they were chambers in which they rested. There are also, as we have seen, certain vaults constructed from stone, some of them being arched, others with square angles. Specimens of these are found in Illinois and Missouri. Dr. Cyrus Thomas speaks of the burial pits which were found in North Carolina. These pits contain conical stone chambers, some of them being built over the body—the body being in a standing

Fig. 11.—Panther Pipe from Carthage, Mo.

attitude—but others being lower and having the body in a sitting posture. Dr. Thomas has ascribed these to the Cherokees and thinks that they may have been modern in their origin. In none of the other districts, however, do we find the use of stone so common as in this, and in none are stone graves so numerous.

(2) The second peculiarity which we notice is this: the graves are built in tiers, one above the other, each tier being drawn in so as to make a pyramid or cone, the whole heap having been ultimately covered with earth, and so a mound which externally resembles other mounds was the result. This was a novel method of constructing mounds out of tombs, and is peculiar to this region. There are, to be sure, a few mounds constructed somewhat after this pattern—a tomb of logs above another tomb being found in them. This is a different type, however, and must have been built by an entirely different class of people. The Grave Creek mound is a specimen of this kind. It was a large, high conical mound, and contained two chambers, one above the other; but the chambers contained a few bodies, with the relics, showing that an unusual personage was buried there. The

stone graves which are found in Ohio and Illinois are not built in tiers, but are merely cists which are arranged on the same level, either disconnectedly or in rows. The majority of these are covered with mounds, but sometimes are placed above the surface and covered with a thin layer of soil. Mr. W. K. Moorehead found stone graves in the south enclosure of Fort Ancient, and has a cut of the same, which he has kindly loaned us.

3 Another peculiarity of the stone graves is that there was so much religious symbolism embodied in them.* The graves were arranged in a circle around a space in which a fire was contained. The bodies were placed in the graves, with the head out and the feet toward the fire. At the head of the bodies, near the outside of the mounds, was a circle of urns, thus making a series of concentric circles, which remind us of the circles on the shell gorgets which are sometimes buried with the bodies. In some of the graves there were jars at the feet of the skeletons and pipes in the hands. The pipes found in the stone graves were generally duck pipes, for the "duck" seems to have been the common totem of the stone grave people. There are no duck pipes in the Ohio mounds, though there are many imitations of other birds and animals.

The pottery in the stone graves are often adorned with ducks' heads and tails for handles, the vessel making the body. Many are in imitation of fish, frogs and coons, the body of the fish constituting the receptacle.

4. Gen. Thruston has spoken of the typical short skulls in the Tennessee mounds, and has compared them to the Cliff-dwellers and Peruvians. Mr. Lucien Carr says that there are no flattened skulls among the stone graves, and thinks that this proves that they were not Natchez, the Chickasas or Choctaws. Mr. Moorehead thinks that this type of skull can not be assigned to the Shawnee Indians, either in Ohio or Tennessee, but thinks that the same people built the stone graves in both regions.†

He says that their decayed condition, the rude implements and the forest trees towering above them, combine to establish the great age of the burials. Skulls similar to these have been found in the great mounds near Detroit by Mr. Henry Gilman, and were pronounced by him as representatives of the most ancient race and typical Mound-builders. The opinion has been expressed that this race migrated from the South to the North, and once filled the entire Mississippi valley, making the chain of the great lakes a barrier between themselves and the dolicocephalic race which occupied the region between the lakes and the

*There are old Indians who maintain that the fire is there burning, and that it was a sacred flame. The custom existed among the Cherokees of taking fire from the rotundas and lighting the fire in the houses at certain seasons, resembling the Mexican customs and that common among the Romans.

†The reader will find the symbolism of the stone grave people fully illustrated in the author's work on Native Myths and Symbols.

Arctic sea.* Sir Daniel Wilson maintains, "not by one, but by diverse routes, the fathers of the American nation found their way thither, some by Behring Straits and the Aleutian Islands, others by a route across the Pacific, others by Iceland and Greenland, across the northern Atlantic, and others by the route which Columbus took in 1492." He speaks of the remoteness of the migrations by which colonization to the new world was effected. Still the same writer says the predominant national characteristic of southern tribes appear to have been brachy-cephalic, or globular, but along the great lakes, the dolic-cephalic form of the head prevails. He says that Canada has no such evidences of an incipient native civilization as the remarkable earth-works which abound at the south of Lake Erie would prove.†

5. The civilization of the stone grave people is in marked contrast with that of the Indian tribes which inhabited the region after the times of history. In fact, the brachy-cephalic people, whether here or in Ohio, were much more civilized than the dolico cephalic. This we gather from the testimony of all authors, even those who hold that the Mound-builders were Indians and are identified with those known to history.

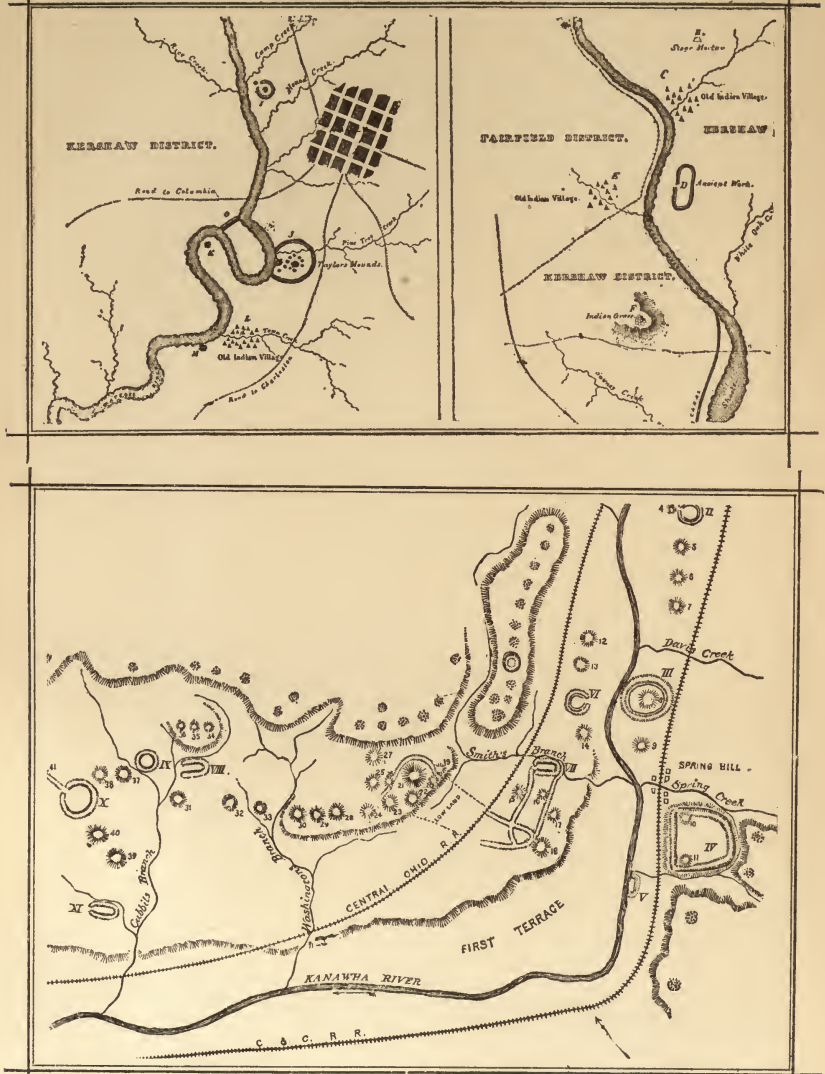
The character of their art will illustrate this. No writings or inscriptions or hieroglypics as such have been found, but there are many tablets and shell gorgets which show a high grade of symbolism. Gen. Thurston thinks that the Mound-builders of Tennessee are the same as those who built the great mound at Cahokia, Ill., Seltzerville, Miss., Etowah, Ga., and the lodge circles of New Madrid and northeast Arkansas. He obtained four hundred and fifty perfect vessels or images from Nashville, which were almost exact duplicates of those at Cahokia and New Madrid. He thinks that the ceremonial scepters, the chipped stone hooks or sickles, wrought agricultural implements, carved pipes and fine specimens of pottery furnish indications of a high grade of art. The ornaments on the pottery are very similar to those of the South The plastering tools show that there was a division of labor, and the pipes show that the people were both serpent worshipers and sun worshipers, but retained their animal totems.

There are traces connecting these tribes with the ancient pyramid-builders of Mexico and the pueblo-builders of New Mexico and Arizona. The same race that built up the ancient cities of Mexico also pushed eastward and colonized the Mississippi valley. Another wave of immigration, probably a more savage race of hunters, came from the northwest and swept the civilization away or substituted the ruder condition which we now ascribe to the Indians.‡

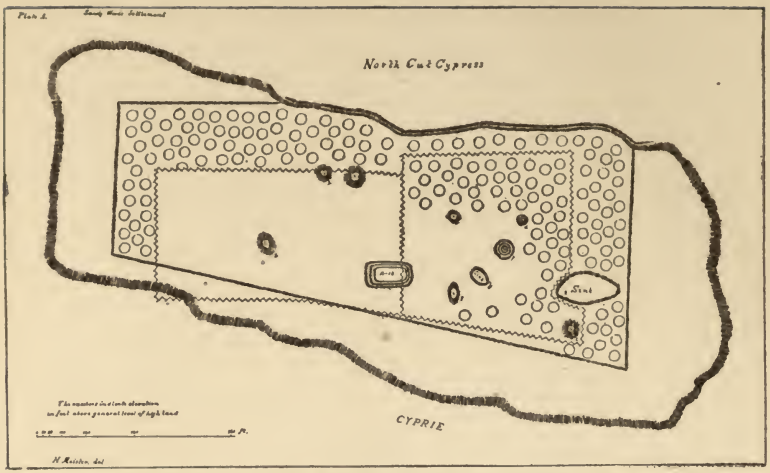
---

*See Morris Civilization.

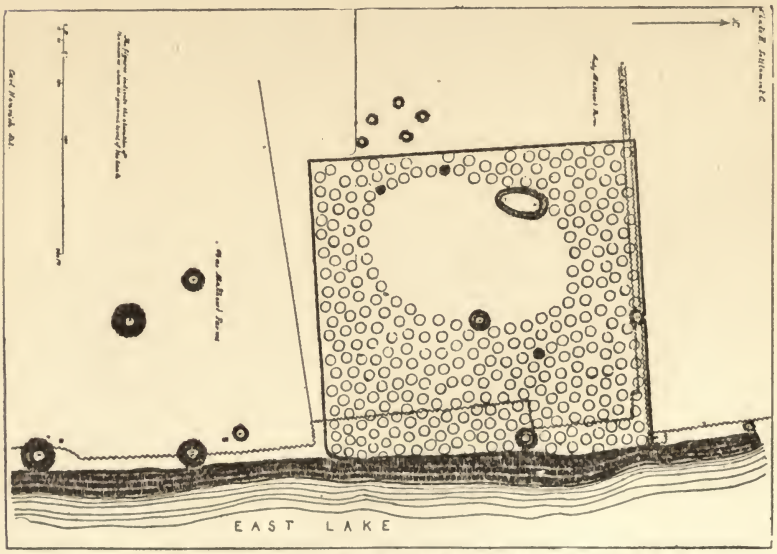
†See address before American Association at Montreal. Report vol. XXXI, p. 565. ‡See Antiquities of Tennessee, pp. 62, 76, 87, 152, 163.



MAPS OF WORKS ON THE KENAWHA AND WATEREE RIVERS.



VILLAGE WITH LODGE CIRCLES AND BURIAL MOUNDS.



VILLAGE WITH LODGE CIRCLES, DOMICILIARY AND BURIAL MOUNDS.

CHAPTER VIII.

THE MIGRATIONS OF THE MOUND-BUILDERS.

One of the most striking peculiarities about the Mound-builders was that they avoided the coast and concentrated their forces thoroughly in the interior, making the rivers their special places of resort. We have already spoken of this in connection with the Mississippi River, and have shown that it was the great thoroughfare for the prehistoric races, the migrations of the races having been along its channels in both directions. Some of the races—such as the Dakotas—are known to have passed up from the south to the north, Perhaps the Mound-builders passed down from the north to the south at an earlier date. The Missouri River was another great artery which supplied life to the Mound-builders' territory. It is said that there are various mounds of the pyramidal type on the Missouri River, and that these have been traced at intervals along the channels, giving evidence that this was the route which the pyramid-builders took before they reached the stopping place. At its mouth was the capital of the pyramid-builders. The Ohio River was also an artery of the Mound-builders' territory. It was the channel through which the various Mound-builders poured. The Ohio River was the dividing line between the northern class of mound-builders, who were probably hunters, and the southern class, who were agriculturists. It was itself occupied by a people who were in a mingled agricultural and hunter state. They were, however, so surrounded by war-like tribes as to be obliged to dwell in fortified villages; and so it was the home of the "village" mound-builders.

There is no more interesting region in all the mound-builders' territory than this one through which the Ohio River ran. It was the favorite resort for the Mound-builders throughout all the prehistoric times. There were prairies to the west, which were occupied by a class of people whose works and relics are still prevalent, whom we call nomadics. There was to the east and northeast another class of Mound-builders—a class whose works show that they were military in their character, possibly the same race which recently dwelt in New York State, and who also left their tokens all along the shores of the great lakes and extended into the State of Michigan. To the south and southeast were the remarkable works which have been ascribed to the Cherokees, some of which belonged to an unknown class of Mound-builders who preceded them. To the southwest were the many different tribes of mound-builders—the stone grave people, the lodge dwellers and the pyramid-builders

The pyramid-builders were situated farther to the south, in the Gulf States, though a portion of them were located at the mouth of the river, in Illinois. There are also pyramids scattered along the Missouri River as far north as Dakota. Some have thought that this proves that that they came originally from the northwest and that their route was down this river. This theory is not carried out, however, by tradition, for one of these make the pyramid-builders to have originated in Mexico and their route to have been from the west to the east. Another makes their origin to have been somewhere west, but their route, owing to enemies which they met, was up the river on one side and down on the other, and so across the Ohio into Tennessee and the region east, into the neighborhood of the Atlantic coast.

Fig. 1.—Grave Greek Mound.

These, however, were all on rivers connected with the Ohio, so that one could pass from the region of the Ohio Mound-builders to nearly all the other districts where mounds have been discovered and not leave the boat or canoe in which he started, as the rivers were all navigable. We see, then, that the Ohio River was very central, that it not only traversed the mound-builders' territory, but, with the Mississippi and the Missouri, may be said to have drained the entire upper half of it, and by its branches —the Cumberland, the Tennessee and the Kenawha—it also drained much of the lower half.

Now we propose to enter this district and make a special study of it. We shall study it, however, mainly as a thoroughfare, through which the Mound-builders passed, or as a center from which they scattered, and shall seek evidences of their migrations, and, if possible, learn the direction they took, and the dates or periods, or at least the order of each. It should be

noticed at the outset that the Mound-builders of the Ohio River were divided into different classes, some of them being earlier and some later in the district. Several may be recognized. It still further may be stated that along this river a division has been recognized in the works of the district, one class being situated at the head-waters of the Alleghany River, another on the Muskingum and Scioto, a third on the Miami, and from the Miami to the Wabash, a fourth on the Wabash, from the Wabash to the Missouri, a fifth class on the Cumberland and the Tennessee, a sixth class on the St. Francis in Arkansas, a little beyond the mouth of the Ohio, and a seventh class on the Kentucky and the Kenawha. All of these are, however, closely connected with the Ohio, as the great artery through which the life of the mound-builders flowed.

We find a great variety of races in these localities, as each sub-district had a class of earth-works peculiar to itself—the

Fig. 2.—Map of Works on Paint Creek.

chambered tomb on the Alleghany, of which the Grave Greek mound is a type (see Fig. 1); the sacred circles and village enclosures on the Scioto (see Fig. 2) and Muskingum; the ancient forts on the Little and Big Miami (see Fig. 3); the conical mounds on the Wabash River (see Fig. 4); the lodge circles and walled villages on the St. Francis River; the stone graves on the Cumberland River (see Fig. 5), and the bee-hive tomb on the Kenawha River. The strangest feature of all is that in this region we find the representatives of all the mound-builders' works—the great serpent representing the effigy-builders, the altar mounds and fire-beds apparently representing the hunters of Iowa; the pyramids near Evansville representing the pyramid-builders; the bee-hive tombs representing the mountaineers in North Carolina; the circular enclosures, representing the sun worshipers; some of the fortifications representing the military people of New York; the stone forts representing the stone grave people of Kentucky and Tennessee, and the ash pits representing the later race of hunters which traversed the region at a late date.

We may say, then, that it is a peculiarly favorable place to study the migrations of the Mound-builders, as well as of the later Indians. Now in reference to this subject of migration, we are aware that various writers have treated of it, and it may be regarded as a test case, having great bearing on the mound-builders' problem. It may be well, then, to refer to these opinions before we go further. We shall speak first of the theory which Dr. Thomas has advanced. It is that the Mound-builders of the Alleghany River, those of Southern Ohio, of the Kenawha Valley and of Eastern Tennessee, were all the same people and were the ancestors of the Cherokees. Opposite to this theory is that of Sir Wm. Dawson, who holds that the Mound-builders

Fig. 3.—Fort at Hardinsburgh, on the Miami River.

were a people similar to the Toltecan race. Their features resemble the softer features of the Polynesians. Dr. Dawson thinks, however, that the Algonkins were a later people and that they came from the southeast, or, as he says, from the "equatorial Atlantic"—a theory perfectly untenable. Dr, Horatio Hale holds that the Algonkins came from the northwest, but that they found the Mound-builders before them. He locates them at first north of the Ohio, making their course to be south and across this river. Dr. Daniel Wilson, however, holds that the Mound-builders were made up of a number of races; some of them were allied to the Toltecan, or, possibly, to the Malays; some to the Algonkins and the Mongolian stock; and some to the ancient Hochelagans, of which the Eries and the Alleghans were the fragments. The opinion we advance is similar to that of Dr. Wilson, but in addition we would suggest that some of them were

allied to the Iberians, and that the sun-worshipers and serpent-worshipers of the Ohio River were similar to the class who left their symbols in Great Britain and in Western Europe.

Here, then, we have the different theories, and are to take our choice out of them all. Our work, however, is not to advance

Fig. 4.—Great Mound at Vincennes, on the Wabash.

and prove a theory, but to study the tokens and ascertain what their testimony is. We enter the field, which is very rich in prehistoric works, but these require the closest study for us to separate the tokens and assign them to the proper dates and order and races, and learn from them the order and the direction which those races observed in their migrations.

The question is, How are we to do this? We answer that there are three ways. First, we may take the location and the

traditions of the Indians; second, we may take the works of this district and compare them with other earth-works, noticing the resemblances and studying the similarity of customs and habits; and, third, we may take the relics of the Mound builders and see what relics are found in this district, and how they compare with those found elsewhere. We take the Ohio as connected with other rivers and as a center as connected with other centers, and see that it was a great thoroughfare for the prehistoric races.

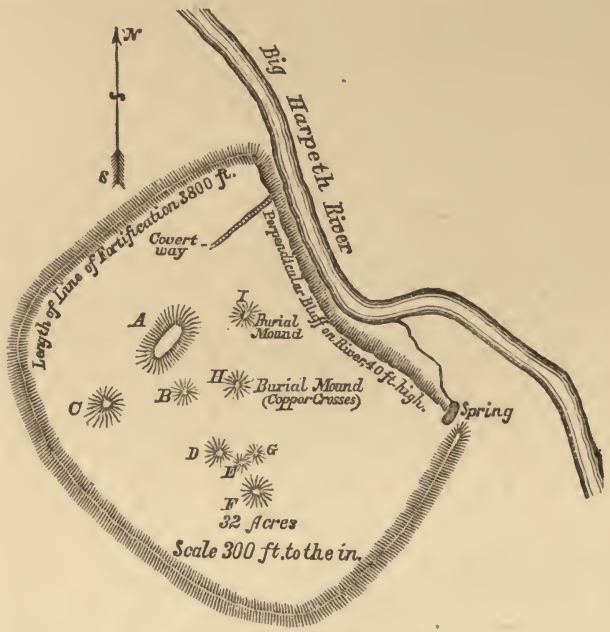


Fig. 5.—Typical Fort of the Stone Grave People.

I. First, let us consider the traditions of the Indian tribes as to their migrations: 1. The Cherokees were a tribe situated, at the opening of history, among the mountains of East Tennessee and perhaps as far east as North Carolina. There is a common tradition that the Cherokees were at one time in the Ohio Valley. 2. The Dakotas; this tribe or stock was, at the opening of history, located west of the Mississippi River, in the State which bears their name. The Dakotas have a tradition that they were once on the Ohio River, and that they migrated from there to the west. 3. The Natchez were a tribe formerly situated near the City of Natchez. They were sun-worshipers. It is supposed by some that the Natchez built the sun symbols in Ohio, but that they changed their methods and adopted the pyramid as their typical work afterward. 4. The Tetons, a

branch of the Dakotas, were probably once in this region, though their home was afterward in the northern part of Georgia. 5. The Eries have been spoken of as possibly the ancestors of the Mound-builders and as belonging to the same stock as the Alleghewis of tradition. 6. The Shawnees, a tribe of the Algonkin stock. They were great wanderers, and left their tokens in many localities. The district is full of graves of the Shawnees, which are interspersed among the works of the preceding mound-builders, but which are easily distinguishable from them by their modern appearance and by certain characteristics which are indefinable, but which are nevertheless easily recognizable. 7. The Iroquois have reached as far south as the Ohio River. We should undoubtedly find various relics left by this tribe in the periods preceding history.

Fig. 6.—Burial Mounds on the Scioto River, Ohio.

Now the point we make is that possibly we may find in the traditions of one or all of these tribes something which will help us to identify the mounds and relics of the region with the people who built them. We must, however, consider one thing before we undertake this. While there are traditions among the Indians as to their former struggles and conquests about this region, there are also evidences of preceding migrations, and this evidence comes to us as a confirmation that the Mound-builders here were not one people but many. In fact, it was a swarming place for several tribes or stocks. With this point in mind we may safely take up tradition as one source of evidence. The great rivers are supposed to have a record of migrations written upon their banks, the works and the various traditions of the Indians being by some identified with each river and the prominent mounds on each having been identified as the seat of some great event known in history or tradition.

It is well known that the tradition, which has been repeated so many times by the natives and gathered by the missionaries and by Schoolcraft, Heckwelder and others, in relation to the very migration we are now considering, has been located in many different places—first on the Mississippi, next on the St. Lawrence,

SE LIBRARY

next on the St. Clair. It seems to have found its last resting place in this very district, at the head-waters of the Ohio. The celebrated Grave Creek mound is said to be the very spot where the event is commemorated. Now we would not depreciate the value of the tradition as one of the connecting links between the history of the Mound-builders and the modern Indians, but refer to the point as an evidence of the importance of discrimination in the matter of migrations.

Haywood says the Cherokees had a tradition in which was contained the history of their migrations. It was that they came from the upper part of the Ohio, where they erected earthworks. But there is a map contained in Catlin's book on the Indians which represents the route taken by the Mandans, a branch of the Dakotas. This map makes Ohio the starting point of that people, and the head-waters of the Missouri the termination of their wanderings. We regard this tradition as important as that of the Delawares or of the Iroqnois, but it is a tradition which gives just the opposite direction for the route of the Mound-builders of the district. How shall we reconcile the two accounts? Our method of reconciling is one which we take from the study of the mounds. The Dakota tradition refers to a migration which probably preceded all the records of either the Teleghewi, the Cherokees, the Delawares and the Iroquois, the migration of the strange serpent worshipers originally occupying this district. Our position is that all of the traditions are important, but they prove a succession of populations in this region. If Dr. Thomas is to locate the Cherokees here, we also locate the ancestors of the Dakotas, and leave the way open for others to locate other tribes, so making the Mound-builders not one, but diverse and long continued. This is our point.

We may well take up the study of locality as connected with the traditions. Heckwelder says the Lenni Lenape resided, many hundred years ago, in a distant country in the west. They migrated eastward, and came to a fort and large town of the Namaesippi, as they called the country occupied by the Telleghewi, who had many large towns and regular fortifications. One of these towns was near the mouth of the Huron, and here are the mounds containing the bodies of the slain Telleghewi. Heckwelder also says the Mengwe and the Lenni Lenape united their forces, and great battles were fought. The enemy fortified their large towns and erected fortifications on the rivers and lakes. The war lasted many years. In the end the invaders conquered and divided the country between them. The Mengwe made choice of the lands in the vicinity of the great lakes, and the Lenape took possession of the country to the south. The Alleghewi, finding destruction inevitable, abandoned the country and fled down the Mississippi, from whence they never returned. Here, then, we have the Algonkin account, and we

MAP OF THE MOUND-BUILDERS' DISTRICT.

seem to be looking at a picture of the Mound-builders who had occupied the territory. There is a discrepancy, however, in the tradition, or rather the interpretation of it. The scene is located on the Namaesippi, which Heckwelder calls the Mississippi, and the flight is down that river; but Heckwelder, in another place, locates one great battle nearly west of the St. Clair and another just south of Lake Erie, where hundreds of the Telleghewi were buried in the mounds. This tradition accords with the passages in Cusick's narrative, a narrative which comes from the Iroquois rather than from the Delawares or Lenapes. It also may accord with the poetical account contained in the Walum Olum, or the red score of the Delawares, translated by Dr. D. G. Brinton. Mr. Hale, in THE AMERICAN ANTIQUARIAN, has said that the country from which the Lenni Lenape migrated was "Shinake, the land of fir trees." the woody region north of Lake Superior, and thinks that the River St. Lawrence is meant by the word great river Namaesippi. He, however, locates the battle mounds at St. Clair and the Detroit River and makes the Hurons the allies of the Lenape. All the accounts agree in this, that the Telleghewi were east of a great river and that they were defeated and driven south. Dr. Thomas thinks that the tradition assists him in carrying out the full identification of the Telleghewi with the mound-builders of this middle district, whom he regards as the ancestors of the Cherokees. He says that the Telleghewi or Tsalake was the name the Cherkees gave themselves. The tradition of the Cherokees refers to the region of the Upper Ohio as their former home. The testimony of the mounds and of the Walum Olum are in accord with the Grave Creek mound and those found in the Kenawha Valley, and when compared with the Ohio mounds prove that this was their home and the retreat was by way of the Kenawha River. Now this is very plausible, and, so far as it goes, it may prove satisfactory. Still we may say that there are traditions which locate other tribes in the same region, tribes which are of entirely different stock from the Alleghewi. On this point we would refer to the map contained in Catlin's Indians and to the one prepared by Mr. J. O. Dorsey. These show that the traditionary route of the Dakotas was in the opposite direction from that of the Cherokees.

II. We now turn to the earth-works. We have said that there are many earth-works in this district, and that they can be divided both according to their geographical location and their chronological horizon. We have also said that the representatives of the works of other districts are found in this, and that these representatives may help us to identify the people who once passed through this great channel. We are now to take up the different districts and see what similarities there are. Let us first notice the centers of population. It is very remarkable

that these centers very closely correspond in the historic and the prehistoric times. To illustrate: The effigies are near the cities of Madison and Milwaukee, Wisconsin; the burial mounds of one class are not far from St. Paul, another class not far from Davenport, Iowa; the serpent mound (see Fig. 8) not far from Quincy, Illinois; a pyramid mound just opposite St. Louis, others near the City of Natchez, Mississippi; the stone grave people near the City Nashville, Tennessee; the bee-hive tombs near the City Knoxville, Tennessee; the Grave Creek mound not far from Pittsburg; the sacred enclosures near Chillicothe, Newark and Cincinnati, and the very large conical mounds near Detroit, Vincennes (see Fig. 4), Dayton and Hamilton.

Fig. 7.—Serpent Mound in Ohio.

Here, then, we have a map of the country, with the centers marked. The rivers also unite these centers — the Alleghany, Muskingum, the Miami, the Wabash, the Cumberland, the Tennessee, the Illinois, the Wisconsin, the Iowa, the DesMoines, the Missouri, the St. Francis, the Red, the Arkansas, the Yazoo, the Ocmulgee, the Tombigbee, the Kenawha and the Kentucky, and they all contain mounds on their banks.

III. The question is about the resemblances between the works in these different centers and those on the Ohio. There may be resemblances where there were no migrations, but the probabilities are that they were caused by the adherence of the migrating tribes to their former customs, the people retaining the signs

and burial customs wherever they went. This is seen in many districts. The sun-worshipers built the circles and squares, the serpent-worshipers built serpent effigies, the pyramid-builders built platforms, the hunters built lookout mounds and game drives, the military people built forts; but they went elsewhere, for we find serpent effigies, circular enclosures, lookout mounds, fortifications, burial chambers, altar mounds and pyramids in other localities as well as here.

We give here cuts of the serpent in Ohio and of the serpent effigy near Quincy, Illinois. These effigies are respectively 1250 and 1400 feet in length. They are both conformed to the shape of the bluffs on which they were erected, and have other features which are similar.

This, then, is the point we make in connection with the middle district. We enter this district and find that different races

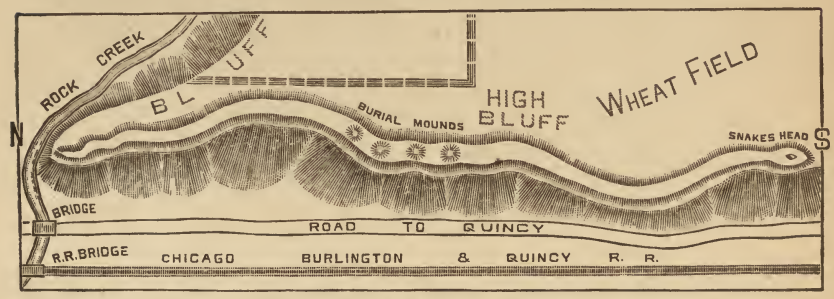


Fig. 8.—Serpent Mound in Illinois.

passed through it. Some were early and some late. We also find that the tribes went in different directions, some going to the south and along the sea coast, and became the sea coast people; some to the southwest, across the mountains, and became mountaineers; some to the west, to the prairie region, and became hunters; some to the Gulf States, and became agriculturists. All the works in these different districts show that the people were once in the middle district and had made the Ohio River, or at least a part of it, their stopping place. There is, however, one thing to be noticed. While the representatives of all the districts are contained in the Ohio Valley, yet the different parts of that valley are to be considered, for the pyramid-builders never appeared on the eastern waters, the sun-worshipers never in the western part, the fort-builders erected their works in the middle part, and the serpent-worshipers merely passed through or crossed over the central part, and ultimately built their works in distant regions. This is the way we reconcile the different theories, as to the modern migrations which are recorded in history and in tradition. The Cherokees may have migrated through the eastern part of this valley. If they did, it was at a comparatively recent date, for all their works

and relics show this. The Shawnees may also have passed up and down the same valley, but this was at a recent date. We have reason to believe that a race of sun-worshipers preceded these and that this race built the sun circles on the Kenawha River, in West Virginia, and on the Wateree River, in South Carolina, although it is very uncertain which direction they took in their migrations.

There is another fact which should be noticed. The mounds were built at different times, and by different races. They contain layers which are like the strata of geology. These give different chronological horizons and represent different periods. An illustration of this is given. See Fig. 9; also Fig. 11. Here we have a mound which contains a horizontal burial, two bodies in a sitting posture, and an altar at the base. These were not intruded burials, but were the work of successive races or tribes which passed through this valley, each one of which added to the height of the monnd. The same thought is conveyed also

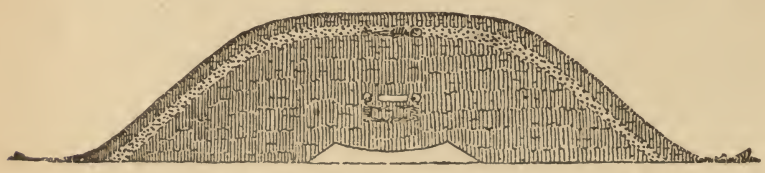


Fig. 9.—Altar Mound on the Kenawha.

by the different kinds of mounds found in one locality. Some tribes built chambered tombs, others stratified mounds and others altar mounds.

We take up the chambered mounds first, the class of which the Grave Creek mound is the representative. We say that this class of mounds is somewhat exceptional in Ohio, but they seem to be later than the sacred enclosures, or at least they are to be assigned to a different race. We notice from the description given by Squier and Davis that they are rarely if ever found inside of enclosures, but are generally isolated on hilltops. We find also that they contain an entirely different class of relics, and are constructed after a different pattern.

It seems to be the opinion of certain archæologists that the Grave Creek mound is the one which figures conspicuously in tradition, and that this is the monument of the Alleghewies or Cherokees. It may be said of it that it differs from most of the mounds in Ohio in that it is isolated, having no earth-works in the neighborhood. It is a chambered mound. In fact, it contained two chambers, one above the other. Each chamber was square and contained a number of bodies. The manner of building the chamber was as follows: A series of timbers or posts were placed on end, forming the wall of the chamber. Other timbers were placed across these upright posts, so as to

form a roof. This roof had decayed and fallen in, so that when the mound was first visited it contained a hollow place at its summit. At the time of the exploration the two chambers became mingled together, the dirt falling from the upper into the lower. There is no doubt that the same race erected both chambers. The mound was a very high one, was situated so as to give a view of the Ohio River, and may have been used as a lookout station as well as a burial place. The Grave Creek mound also contained one skeleton in the upper chamber, and two in the lower chamber, and it may be conjectured that they were sepulchral chambers, which contained the bones of the family of the chieftan or distinguished individuals among the tribe of the builders. With these skeletons were found three or four thousand shell beads, several bracelets of copper and various articles carved in stone. It is said, however, that on reaching the lower vault it was determined to enlarge it for the accommodation of visitors, and in so doing ten more skeletons were discovered, all in a sitting posture, but in so fragile a state as to defy all attempts at preservation. We might say in connection with this Grave Creek mound and the theory that it was built by the Cherokees, that the tablet about which so much discussion has arisen, was said to be found in the lower chamber, though it may have dropped from the upper one. It is now over twenty years since the tablet was thrown out of court, its evidence having been impeached so many times that it has no weight in solving the problem. Still, inasmuch as the Cherokees have an alphabet, which was said to have been introduced or invented by the Cherokee Sequoia, and as other stones have been discovered with alphabetic characters on them, perhaps the case should be reconsidered.

There are very few mounds in Ohio which contain chambers like these. While there were various mounds which contained single chambers made from logs, they were generally comparatively small mounds, and the chambers within them were much smaller. Squier and Davis have spoken of a sepulchral mound on the east bank of the Scioto River, one of a group, which was twenty-two feet high by ninety feet base. At ten feet below the surface occurred a layer of charcoal; at the depth of twenty-two feet was a frame-work of timber, nine feet long, seven feet wide and twenty inches wide, which had been covered with unhewn logs. The bottom had been covered with bark matting, and upon the matting was a single skeleton. Around the neck of the skeleton was a triple row of beads made of marine shells, several hundred in number, and the tusks of some animal. This is the mound, however, to which we have referred already. It was a mound which, in its location, showed that it was not one which belonged to the sun-worshipers. It was situated six miles from Chillicothe, on a hill, a mile and a half from any enclosure,

though surrounded by other burial mounds of the same shape. See Fig. 6. This mound we ascribe to a different race from those who built the altar mounds and the enclosures.

Dr. Thomas speaks of two mounds in the Kenawha Valley, one called the Smith mound and the other No. 23, one being 35 feet high and 175 feet in circumference, the other 25 feet high and 312 feet in circumference. Both contained chambers made from logs, one of them 13 feet long and 12 wide, the other 12 feet across and some 10 feet high. Both were in the form of a pen. It appears that the great Smith mound contained five skeltons, one very large, over seven feet long. Each wrist was encircled by copper bracelets; upon the breast was a copper gorget; in each hand were three flint lance-heads; near the right hand a small hematite celt and a stone axe; upon the shoulder three sheets of mica and a fragment of dressed skin, which had been preserved by the copper. Another mound situated in the valley of the Scioto River, on the very lowest terrace (see Fig. 10), where the water frequently overflowed, was excavated and found to contain chambers, or vaults, one above the other. These vaults were larger, and of different shapes, being 36 feet in diameter, and circular in shape. They were built by posts placed upright, 11 inches apart, the upper vault having two circular rows of posts, but the lower only one. On the floor of each vault were several skeletons. There were also logs or timbers in the lower vault, giving the idea that this one was also built in the same way. Dr. Thomas says there were some indications that the burial was comparatively recent, as a bone showing the cuts of a steel knife was found in the vault. The fact that the mound was on the low ground overflowed by the river also shows that it was recent, as all the old mounds were on the terraces above the flood plain, and were evidently built when the water covered the flood plain, while this one was built after the flood plain had been drained. The large vaults with the modern relic, Dr. Thomas thinks, were used as council houses and that they resemble those used by the Cherokees after the time of history. The discovery of a similar vault by Mr. Lucien Carr is referred to in evidence. This vault, so called, was on the top of a truncated oval mound in Lee County, West Virginia. It was evidently a rotunda, such as the Chero-

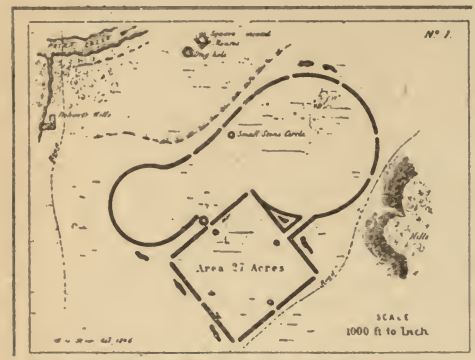


Fig. 10—Village Enclosure on the Scioto River.

kees used as their places of assembly, as there was a row of posts arranged in a circle, showing this. The argument which Dr. Thomas dwells upon is that the proximity to the circle and square called the Baum Works proves it to have been built by the same people. This, however, is the very point we make on the other side. It proves the succession of races, and shows that the Cherokees were among the last in the region, but were not the village sun-worshipers, as is suggested. The vaulted mounds have not been found in the circles or squares, nor in connection with the covered ways or double circles, nor do they contain any such finely carved relics as belonged to the earlier class of sun-worshipers. These are very rude and the mounds are differently situated.

IV. The mode of burial practiced by the Mound-builders is next to be considered. Dr. Thomas, in his work, has shown one mode of burial which was quite remarkable. It seems to have consisted in the digging of a circular pit, and then placing bodies in the pit and building stone cones or chambers over the bodies. This pit with stone vaults and skeletons was explored by the agent of the Bureau of Ethnology. It is a true circle, 38 feet in diameter, not more than a foot and a half in height. The bee-hive shaped vaults were built of water-worn boulders. The skeleton was placed upon its feet and a wall built up around it. On the top of the head of one skeleton, under the capstone, were several plates of silvery mica. Many of the stones of the little vaults bore unmistakable evidences of fire. The only relic found was a pipe, found near the mouth of one This pit was covered with a very low mound. Near the mound was a triangle, which proved to be a communal grave. It was a burial pit. The two long sides of the triangle were 48 feet each, and the other side 32 feet. The depth varied from two and a half to three feet. Here was a bee-hive shaped vault of cobble stones. In the pit a skeleton, and a large engraved gorget were with it; a number of large-sized shell beads; at the sides of the head, near the ears, five copper beads or small cylinders; under the breast, a piece of copper; about each wrist a bracelet, composed of alternate beads of copper and shell; at his right hand were four iron specimens, one of them in the form of a thin celt; another apparently a part of the blade of a long slender knife or dagger; another a part of a round awl-shaped instrument. Scattered over and between the skeletons of this group were numerous polished celts, discoidal stones, copper arrow-points, plates of mica, lumps of paint. About 200 yards east of the triangle was another low mound, covering a circular pit similar to the one described, in which were twenty-six skeletons. In a different part of the same county another similar pit, containing a kind of communal grave, in which were the following articles: One stone axe, 43 polished celts, 9 pottery vessels, the handle of one

representing an owl's head and another an eagle's head, 32 arrow heads, 20 soapstone pipes, 12 discoidal stones, 10 rubbing stones, 6 engraved shells, 4 shell gorgets, 1 sea shell, 5 large copper beads, a few rude shell pins. Among the shell gorgets was one containing four birds' heads with the looped square figure, a symbol of the sun, and a figure of the cross enclosed in a circle. The soapstone pipes were of peculiar shape. One of them had a bowl in the shape of a tube, but with a flat stem or mouth-piece. A number of pipes similar to this have been found in a mound in Sullivan County, East Tennessee. Others have been found in West Virginia. A very modern-looking pipe is also presented by Dr. Thomas, though he does not state exactly where it was found. This group of mounds or burial pits was situated on the borders of the white settlement, a locality where we would expect to find the traces of contact with the whites. The Cherokees long resided on the mountains of East Tennessee. They took the patterns for their pipes from the whites, but they retained many other relics. The symbolism they held in common with other tribes was perpetuated intact.

One fact is to be noticed. In one of the mounds in North Carolina, the one which contained the circular pit, some eight or ten skeletons with heads which had been elongated by artificial pressure were discovered. The Catawbas are said to have practiced this head flattening, as did many of the Muskogee stock. The explorations on the Little Tennessee River among the overhill towns, yielded a number of relics which resembled those found in North Carolina. The mounds here contained a peculiar style of clay beds, saucer-shaped, varying in diameter from six to fifteen feet, built in layers, one above another, three to five beds, with a layer of coal and ashes between them. In one mound were found a number of skeletons, and by the side of nearly every skeleton were shell masks, shell pins, shell beads, perforated shells, engraved shells, discoidal stones, polished celts, arrow-heads, spear-heads, stone gorgets, bone implements, clay vessels and copper hawk bells. The hawk bells were with the skeleton of a child, at a depth of three feet and a half. They were in the form of sleigh bells, but with pebbles and shell beads for rattles. In another mound on the Little Tennessee, two miles from Morgantown, were found nine skeletons, and with one were two copper bracelets, copper beads, a small drilled stone, an engraved stone which had some of the characters of the Cherokee alphabet on it. The argument which Dr. Thomas makes in connection with these finds is that the mound-builders were Indians, and the particular tribe who built these mounds were Cherokees. The argument is, however, misleading. It may be forcible as proving the migration and the modern character of the Cherokees, but it begs the question as to the other tribes of mound-builders. The tribes which were formerly lo-

cated along the Atlantic coast and on the Alleghany mountains have never been recognized as belonging to the Mound-builders. Many of these works are to be connected with the historic Indians, such as the Powhattans of the Algonkin stock and the Tuscaroras of the Iroquois stock. The value of the finds consists in the fact that the record of the Cherokees is carried back into prehistoric times and the record of mound-building brought up to modern times; but to make the Cherokees the mound-builders of the Mississippi Valley is absurd. The Cherokees may have passed over a portion of the Mound-builders' territory, precisely as the Dakotas are supposed to have done at an early time and as we know other tribes—such as the Shawnees, Delawares, Iroquois and Wyandottes—did after the time of the discovery; but the probability is that their route was over the eastern part and not the western.

That there was a succession of races is seen from the study of the burial mounds. Fig. 11 illustrates this. In this mound we find at the bottom a circular vault three feet deep and 6 feet in diameter, filled with chocolate dust, No. 1. Next to this was a layer, marked 2, containing the bones of fifteen or twenty persons. Above them a layer of burned clay. Above this, in No. 4, was a mass of calcined bones, mingled with ashes and a reddish brown mortar burned as hard as brick.

The bee-hive vault has been dwelt upon as proof, but the bee-hive vault resembles the bee-hive huts, which are common in Scotland, as much as it does any structure found in Southern Ohio. Shall we say that these bee-hive vaults prove the Cherokees to have come from Scotland? The Cherokees are said to have been very white, and might almost be called white Indians. Shall we trace the Cherokees back to a white race, which, according to some, was allied to the Aryan? Their language is said to be related to the Dakotas. The earliest known migrations of the Dakotas were from the east. Shall we, then, trace both the Dakotas and Cherokees back to the island of Great Britain, making the route of their migration to be by way of Iceland and the coast of Labrador, and take the coincidence between the bee-hive huts and bee-hive vaults and make out a case in that way?

The effigy mounds of Southern Ohio, especially the great serpent, the bird mounds of Northern Georgia, the effigies of Wisconsin and the stone effigies of Dakota are assigned by some to the different branches of the Dakotas—the Tuteloes having once been located in Northern Georgia, not far from where the bird effigy is; other tribes—such as the Iowas and Mandans—having, according to tradition, carried these symbols to Dakota; the Winnebagos, another branch, had their last abode in Wisconsin, where the effigies are so numerous.

Our argument is for the migration of the Dakotas as preceding that of the Cherokees. According to Thomas there are, in the

mounds of the Kenawha Valley, several different kinds of burials, some of them resembling those found among the Cherokees; but the trouble is that these have all been mingled together as if they all belonged to one tribe, whereas they prove that several tribes passed through this region. Let us enumerate the different forms of burial mounds which Dr. Thomas has assigned to this tribe. 1. We find the bee-hive tombs in North Carolina. These were found in a circular pit. 2. The triangle containing graves and modern relics. 3. The mounds with burials between bark coverings in East Tennessee. 4. The square chambered tombs in the Grave Creek mound, in the Kenawha mound, and those on the Scioto. 5. The round chambers, lined with upright posts, contained within the pyramid mound on the flood plain in the valley of the Scioto. 6. The altar found at the bottom of one of the mounds in the Kenawha

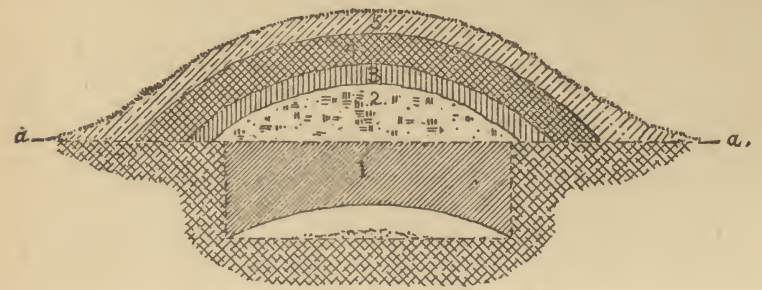


Fig. 11.—Stratified Mound in Wisconsin.

Valley (see Fig. 9), resembling those found in Ohio. 7. Altars made from cubical piles of stones, found in Eastern Iowa, resembling those found in Tennessee. 8. The altar beds in Calhoun County, Illinois, resembling others in Tennessee. 9. The square piles of stones in Franklin County, Indiana, resembling those found in Tennessee. Besides these there were the stone graves found in the Kenawha Valley, those in Illinois, and those found in the bottom of the pyramid mound at Etowah, Georgia, the stratified mounds found in the neighborhood of Davenport, the chambered tomb found in Wisconsin, the stone vaults found on the Mississippi and the Missouri Rivers.

The important point we make is this: The burials referred to above are so varied that it is absurd to ascribe them to any one Indian tribe, either Cherokee, Shawnee or Dakota.* True the analysis and comparison might enable us to assign those northwest to one general class; those on the Missouri River to another; those on the Upper Mississippi to a third; those on the Middle Mississippi to a fourth; those on the Southern Mississippi to a fifth; those on the Cumberland to a sixth; those on

*The reader will find a description of the different burials in the chapter on burial mounds. See *American Antiquarian*, Vol. XI, No. 6.

the Upper Ohio to a seventh; and those on the Wateree River and in East Tennessee to the eighth class. This is, however, only repeating what has been said before the Mound-builders were divided into several distinct classes, and differed according to location,—each tribe having its own peculiar earth-works and burial mounds and relics. So far as the classes and districts are concerned, there is no great difficulty in tracing the tribes which occupied these subsequent to the time of history, back to the Mound-building period and in identifying them in some of the burials which have been preserved; but to say that these historic tribes were the builders of all the mounds in the district is going contrary to the facts, for there is too much variety in the mounds of each district to admit of this.

We are ready to acknowledge the resemblance between these circles in the Kenawha Valley and those on the Wateree River in South Carolina, and especially the similar significance of the circle with the mound in its center, which seems always to be a sign of sun-worship. Squier and Davis have called attention to the general similarity between the southern mounds and the Ohio mounds, especially to the fact that there were spiral paths around the outside of them. They speak of the council or oblong mound in the circle on the Wateree River, with a circumference of 550 feet at the base and 225 feet at the top, and 30 feet high. They say, however, that while this region was occupied by the Cherokees at one time and by the Ocmulgees at another, still that the country was, many ages preceding the Cherokees, inhabited by one nation, who were ruled by the same system of laws, customs and language, but so ancient that the Cherokees or the Creeks could give no account of them or the purposes for which they erected the monuments. High pyramidal mounds, with spacious avenues leading to artificial lakes, and cubical yards, with sunken areas and rotundas, are the characteristic works of the south—works which the Cherokees adopted and used, but which, it is said, they did not build. The contrast between the two classes is marked, as the water cultus is plain in one and sun-worship in the other, and yet the connecting link may be found in the circles we are describing.

This thing we can rely upon, however: The mounds, earthworths and relics are so arranged in districts, and so correlated to those districts, that we may safely give names to the people of the district; but they must be names which are taken from the ancient works, rather than from the modern tribes. This is the case even when we think that we have traced the migration of the ancient races, for, after all that we may do, it is still an open question whether the ancient races and the modern works can be fully identified.

Modern races followed the ancient in all the districts; but the ancient relics were transmitted, and modern relics intruded in

such strange, unaccountable ways and out-of-the-way places, as to make us pause before we give a certainty to our speculations in regard to this subject. The monitor pipes, the duck pipes, the shell gorgets, the inscribed shells, the copper relics, the gold ornaments, and various other relics, may be scattered through the mounds of each separate district, and at the same time be found in the hands of the later Indians occupying these districts; but the traditions. the relics and the earth-works in these same districts, often compel us to go back of these people and to assign a long succession of tribes to the district, so that we may say it is actually easier for us to trace the migrations of the Mound-builders from one district to another than it is to trace the history of the district, back through its different periods of occupation.

Here, then, we have the evidence. The migrations of the pyramid-builders, like that of the stone grave people, may have been across the Ohio Valley at the west end. The migration of the circle-builders, sun-worshipers, may have been north or south, across the Ohio Valley at the east end; but, on the contrary, the serpent-worshipers, whose works are found on the Ohio River and on the Mississippi River, must have migrated through the whole middle district, the Ohio River being the thoroughfare. It does not seem reasonable that they were the same people who built the bee-hive vaults or even the chambered tombs, for not one such one structure is found in all their western track,

Our conclusion is that there were various migrations of mound builders through and across the Ohio Valley, some of them having been sun-worshipers, some of them serpent-worshipers and some pyramid-builders. If any of these are to be identified with the Cherokees, others with as much reason may also be identified with the Dakotas, the testimony of tradition and of language, as well as of archæolgy, corresponding on this point; but this by no means precludes us from believing that there were other races or tribes of Mound-builders which preceded these, the history and names of which have not yet been discovered, and so they can not be identified with any modern tribe.

CHAPTER IX.

VILLAGE LIFE AND THE MOUND-BUILDERS' CULTUS.

One of the most noticeable things in connection with prehistoric times is that village life was so prevalent. This seems to have been common in all ages and among all races, but it was especially prominent among the Mound-builders. It was in fact the element into which they threw their own peculiarities and which embodied their cultus. The Mound-builders' villages were not all alike, for every district had a style of village pecular to itself, and yet they differed from those of other races, and are therefore worthy of our study. This is the factor which may enable us to draw the line between the different periods of occupation, and help us solve the Mound-builder problem.

The picture of the Mound-builders' territory which we have presented is one in which different classes or tribes occupied different districts, filling each district with their own peculiar cultus. The picture is a varied one, for the tribes or classes followed different employments, used different implements and showed different grades of advancement. The conditions of society were correlated to physical surroundings. There seems to have been, also, changes among the people at various times; migrations from one district into another, the abandonment of earthworks of one class, and the erecting of a similar class of earth-works in another region, the routes of migration being marked by the tribes, either in entering their territory or in departing from it.

The location of the modern tribes of Indians, with their peculiar habits and customs, has also come into the picture and been a prominent feature in the scene. The panorama has been a moving one; in fact, the changes have been so numerous that it has been difficult to distinguish the earlier from the later tribes, and much confusion has been the result. It is probably on this account that many have confounded the Mound-builders with the Indians and classed both together, not realizing that the Mound-builders' cultus was so distinct.

I. The character of the villages is the test by which we determine the cultus which prevailed in a certain period of time and

ESE LIBRARY OF THE RSITY

in particular localities, and is the especial means by which we ascertain the Mound-builders' cultus. We speak of the Mound-builders' cultus because it was distinctive, in fact, as distinctive as the cliff-dwellers or the lake-dwellers, or the Aztec or Maya cultus, and because it furnishes us a definite name for a specific period of time and helps us to separate that time from that which preceded, and that which followed; but the cultus was embodied in the village life as much as in any other element, and we shall, therefore, point to this as the factor which will enable us to distinguish the cultus. Village life may, indeed, have prevailed among the Indian tribes, as it prevailed among all of the uncivilized races, both in this continent and in every other one. Mr. Stanley informs us that villages were very common in Central Africa, that all the trails led through villages; travelers have spoken of the villages of South America and have pictured the roadways which led from one city or ancient village to another.

Fig. 1.—Village with Water Supply.

The early and later explorers maintain that there were roadways in Central America, Yucutan and in Honduras, which led from the ancient cities to the sea coast, and from the sea coast to islands. We do not maintain that village life was peculiar to the Mound-builders—as it was everywhere prevalent, and was as common among the later as the earlier races—but its features were distinctive.

The features which distinguish the villages of the Mound-builders are as follows: 1. The presence of earth-works, which in one way or another form an enclosure, either as walls, as pyramids, as circles, burial mounds or effigies. They may have been used as burial places, as lookouts, as altars, game drives, places of assembly, but all of them were connected with the villages. 2. The abundance of relics in the mounds, deposited as offerings, or personal belongings, gives evidence of a numerous population, which had its center in the village. 3. The earliest villages were those of the Mound-builders, and can be distinguished from the villages of the later Indian races by their age. The burial mounds show a succession of races, but the burials which are the earliest, or lowest down, may be taken as those of the Mound-builders*. 4. The villages of the Mound-builders were generally located upon the high land and were attended with lookout mounds, trails or roadways, and other signs which indicate that they were connected with one another, showing that the occupants were the permanent possessors of

---

*See Chap. I, p. 30; Chap. IV, p. 53-58; Chap. V, Burial Mounds, p. 65-74; Chap. VIII, p. 123.

the entire region.* 5. The evidence of an organized condition of society is given by the villages of Mound-builders; the villages were occupied by clans, the clans were arranged in tribes, tribes were gathered into confederacies.

The grade of advancement in the earth-works and relics distinguished the Mound-builders' villages from those which either preceded or followed,and furnishes a good test as to the Moun l-builders' cult.

1. Let us take up first the study of the earth-works. Many of these were located on ground where modern cities have grown up, but there was a time when they were the most marked objects in the landscape, and the record of them is more complete than that of the temporary Indian villages which have been gathered in the same spot. The center of population was in the village throughout all ages, but in the Mound-builders' age the villages were more extensive than at any other time and were perhaps as imposing in appearance as many of the villages built by the white man, and were especially in contrast with those of the Indians.

Fig. 2—Village with Sacrificial Mound.†

Indian villages were often erected in the midst of Mound-builders' enclosures; Indian graves intruded into the tumuli of Mound-builders, and Indian relics are found mingled with Mound-builders' relics. But if an extensive earthwork, with heavy wall and great gateways can be distinguished from an ordinary camping place; if the deposits of beautifully carved relics, such as pipes, highly wrought copper specimens, and pearl beads can be distinguished from the rude camp kettles, the occasional brass and silver brooch, the fragments of cloth and the debris of the camp, the permanent abode or house can be distinguished from a rude wigwam, the Mound-builders' cultus can be separated from the Indian, even when the villages were in the same locality.

Any one who reads the descriptions of Indian wars, especially

---

*See Chap. II, p. 17-18; Chap. VI, p. 89, American Geologist, article by S. D. Peet, on The Flood Plain, p. 264.

† The cuts given in Figs. 1 and 2 are taken from Atwater's book, which was the first one published upon the Mound-builders. They represent the two villages formerly situated on Paint Creek, five miles apart, with a fort between them, located at Bourneville. The same villages can be seen in the map. These villages were somewhat remarkable. The one at A had an enclosure which contained 77 acres, in the center of which was an elliptical mound, 240x160 feet, and 30 feet high, surrounded by a low embankment and covered with a pavement of pebbles. There was a crescent near this mound, set around the edges with stone, and a number of wells were inside and outside the enclosure. The circle contains 17 acres; within it was a smaller circle, which probably marked the site of the estufa. Here we have provisions for religious ceremonies as well as residence and defense. The other village (B) contained no elliptical mounds, but there was within it a pond 15 feet deep and 39 feet across, which is fed by a rivulet flowing from the high land through the walls and furnished the village with water supply.

those conducted by Gen. St. Clair, Anthony Wayne, Gen. George Washington, Gen. Braddock, can realize that the villages which were so easily destroyed by the invading whites, and which were frequently transported by command of the Indian chiefs, were but temporary camps, and in great contrast to the Mound-builders' villages. The battlefields have been located, but not one of them is marked by any earthworks, such as the ancient races were accustomed to erect. The villages which were attacked were clusters of temporary wigwams, some of them without even the protection of a palisade. They were so easily destroyed that a single fire would sweep them from off the face of the earth, and, in a few years, not a trace of them was left. Even in the localities where, according to the early maps, Indian villages once stood, the explorer will seek in vain for any vestige by which he can identify the site. If he takes the names of distinguished chiefs, such as King Phillip, Pontiac, Tecumseh and Black Hawk, and seeks for their homes he will find no sign of them. The villages of Black Hawk and Keokuk were situated on the DesMoines River, near Eldon, but not a sign of them remains; even the graves of these Indian warriors have been despoiled and their bones destroyed.

*Fig. 3.—Stockade Village near Granville, Ohio.**

There was formerly an Indian village on the Ohio, opposite the mouth of the Scioto. It was, however, located on the banks, below the terrace on which were the villages of the ancient Mound-builders. The contrast between the two villages—the ancient and the modern—can be seen here. Here we see

* The stockades represented in Figs. 3 and 4 are such as are very common in Ohio and Kentucky and many of the western States. They are not known to have been built by any Indian tribe, but may have marked the intervening period between the Mound-builders' age and that of the modern Indian. They show the difference between the cult of the early Mound-builders and that of the later race. One of these was situated near Granville, and in sight of the alligator or opossum mound, about five miles from the works at Newark. It has an area of 18 acres. The ditch is outside of the wall. Inside the wall is a small circle, 100 feet in diameter. In the circle are two mounds, both of which contain altars.

heavy walls on the high terrace, fifty feet above the bank where the modern village was located, the oval enclosure isolated on a spur, and the covered ways extending for eight miles or more, with the bastions, gateways, circles, and burial mounds all connected by a ferry with the walls, circles, mounds, on the summit of the hill opposite, and these again by another ferry with the walls, concentric circles and temple mounds, several miles away, the length of the walls being twenty-two miles. On the other hand, the Indian village is so insignificant that a single flood overflowed its site and swept away all vestige of the encampment, taking the houses of the few white settlers, which had been built upon the same spot, so that now nothing is left to reveal either of the later periods of occupation.* All signs of the Indian village and early settlement of the white man have disappeared, but the works of the Mound-builders remain, notwithstanding the growth of a modern city on the spot.

2. It has been maintained by some that the stockade was peculiar to the northern Indian, the earthwork to the southern Indian and that this constituted the only difference between the villages, but the fact is the stockade was as common at the south as at the north, and in both sections there are earthworks which were built by an earlier race. Beauchamp has shown this to be the case in the state of New York. He maintains that there was a period of time when villages were surrounded by earth-works, but at a subsequent period the timbered palisade took their place.† The stockades of the Iroquois tribes were more enduring than the temporary villages of the Algonkins, but these have so far disappeared that it is difficult to locate their villages. On the other hand, the villages of the Mound-builders, who preceded the Iroquois, are identified by earth-works which still remain. Sir William Dawson has also shown that the villages of the earlier races were attended with a class of relics which indicated a cultus peculiar to the age and the people.‡

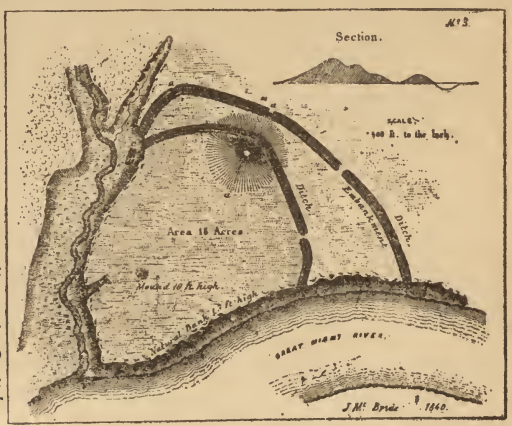


Fig. 4.—Stockade Village in Ohio.

The antiquity of the first race can be judged from the fact that a

*See map, p. 253. † See Amer. Antiquarian. ‡See Fossil Man.

nest of copper relics, consisting of socketed spears and spades of the Wisconsin stamp, was found while digging the St. Lawrence canal, on the banks of the St. Lawrence River, some fifteen feet below the surface. The antiquity of the Mound-builders' village in the State of Ohio can also be seen from the earth-works. The village near Dayton, Ohio, covered several miles of a level plain, but so long ago that the sweep of the waters of the Great Miami River in the time of flood has taken away a larger portion of the walls and yet that which remains extends beyond the modern village of Alexandersville, and takes in two stations on the railroad.*

3. Village life impressed itself upon the soil everywhere. Even in the region where the hunter life was prevalent, this is everywhere apparent. Here the villages were surrounded either by circles of burial mounds or by animal effigies, or rude earth-works,† but there are also lookout mounds, and game drives, garden beds, and occasionally altar mounds, which indicate that certain clans occupied the locality. Game drives are not confined to the state of Wisconsin, but are found in Illinois and other states, showing that while the Mound-builders of this region were hunters, they dwelt in villages.

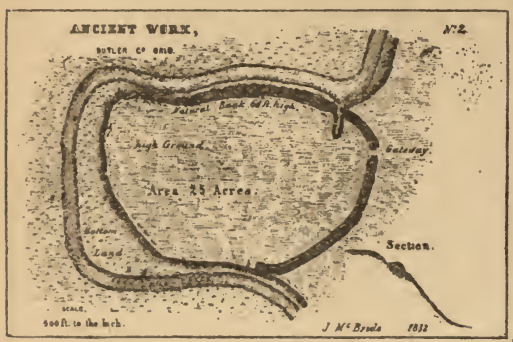


Fig. 5 —Stockade Village in Ohio.

It remained, however, for the agricultural races to build the most elaborate earth-works, as a defense to their villages. These were placed uniformly upon terraces overlooking the rivers, and abounded with covered ways, graded ways, lookout mounds, dance circles, burial places, all of which were guarded by earth-walls.‡

Walled villages were numerous in the middle district, on both sides of the Ohio River, but they did not all belong to the same class. In fact, four or five types of Mound-builders' villages have been discovered in this region, all of which may have been prehistoric. These were followed by the rude villages of the modern Indian races. The effort has been made to identify these modern Indians§ as the descendants of the earlier Mound-builders, but

*See Antiquities of Tenn., by Gen. G. P. Thurston, p. 40. Jones' Aboriginal Remains, p. 115. See map of works at Alexandersville.

†See William Dawson's Description of Hochelaga, p. 40; Hubbard's Memorial Sketches of a Half Century, p. 232; Peet's Emblematic Mounds, p. 208; Smithsonian Report, Description of Earth Walls on the Spoon River and Fox River, Illinois.

‡See Bartram's Travels.

§See Antiquities of Southern Indians, by C. C. Jones.

the very contrast between the two classes of villages, the earlier and later, refutes this. The Mound-builders may have changed their location, and the occupants of the villages of one district have established their villages in another district, but if this was the case, those who migrated must have adopted another style of village architecture and manufactured a different class of relics, having dropped those to which they had been accustomed, for there are no two districts in which the same works or relics can be discovered. Relics, to be sure, are found in Iowa and Illinois which resemble those in Ohio, but there are no such earth-works. A few works are found in West Virginia and Kentucky which

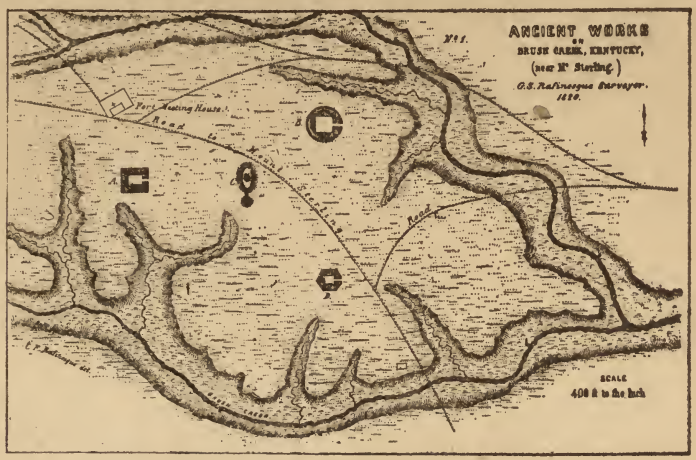


Fig. 6.—Sacred Enclosure in Kentucky *

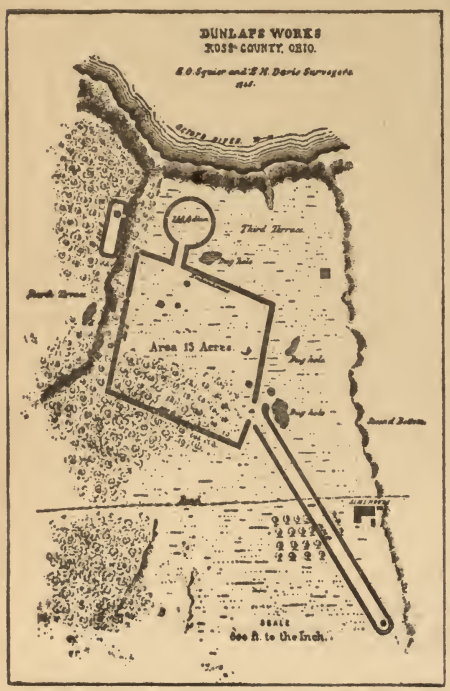
resemble the Ohio villages, but the relics are quite different. It appears that there was a period in which every district exhibited a Mound-builder's cultus, another period in which it disappeared or was lost.

4. The loss of this cultus is one of the plainest facts in archæology. We pass over the districts and study the works and relics which we ascribe to the earlier Mound-builders, but we find the people gone, and we fail to recognize or identify their cultus in any one of the modern tribes of Indians. In fact, the change of cultus has been so great in every district that we fail to reach any certainty in reference to the time of occupation or the people who built the villages. When we interrogate the Indians of any tribe, Iroquois, Algonkin, Dakota, Cherokee, Shawnee, we find their memory uncertain and their traditions indefinite.†

* The works at Mt. Sterling consist of an enclosure 100 feet square, an elliptical mound, 9 feet high, truncated and connected by a wall with a small conical mound, a circle with a ditch and square platform, and a hexagonal enclosure with a gateway to the east. These works exhibit an identity with those in Ohio and were probably symbolic or religious in their character. The proximity to the streams suggests a water cult. See Fig. 6.

† See Irving's Florida; for Study of Skulls see report of Davenport Academy of Science, Lucian M. Carr's Antiquities of Tenn., p. 117; Agricultural Races, Jones Southern Indians, Eleventh report Peabody Museum, p. 384.

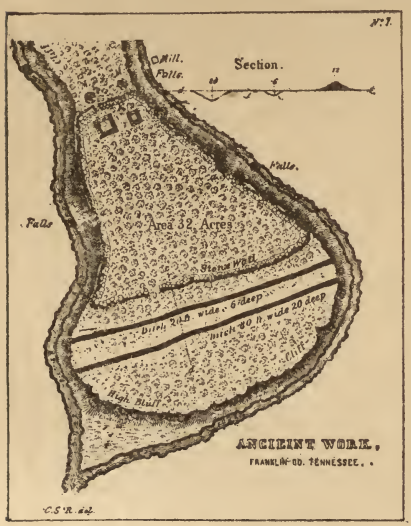
The Shawnees have indeed been traced from one locality to another, for they were great wanderers, but the relics which have been found in the stone graves which are said to mark their route, are as different in different localities as if they were manufactured by entirely distinct races. The abandonment of their homes by these wandering tribes must have occurred long years ago, for otherwise we could not account for the change which has come upon them in their cultus and art motives. So with the Cherokees, and the Muscogees and other tribes. Adair and Bartram tell us the Cherokees had a tradition that the pyramids at the south were built by a preceding race; that they only occupied them as new comers after vanquishing the nations who inhabited them, and that the former possessors told the same story concerning them; that they found the mounds when they took possession of the country. Mr. Jones says that "the works were subject to secondary uses. Temple mounds, originally designed for religious objects, were by the Creeks and Cherokees converted into stockade forts and used as residences for their chiefs or for purposes of sepul-ture." The tradition is that the incursion of wild tribes from the North drove off the Mound-builders from the middle districts, some of which intruded themselves upon the southern districts, and at a still earlier date these southern tribes supplanted a race of pyramid-builders. These traditions are confirmed by the study of the relics and works, all of which indicate that many changes took place in pre-Columbian times, the transposition of new populations having brought in a new cultus, with intervals of varying length, but the village life having continued through all the changes.



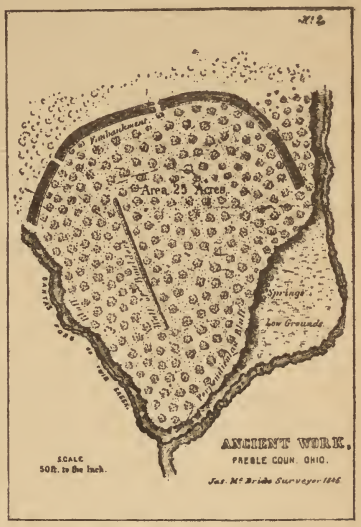
Mound-builders' Village and Covered Way.

* The enclosure called Dunlap's Works is situated on the third terrace above the Scioto. There is a covered way 1240 feet long, with a lookout mound at the end which commands a view of the river valley, and a terraced mound or mound and circle not far from the covered way. On the fourth terrace is an outwork which may have served as a race-course or a place of games. There was a gateway and a graded path connecting it with the enclosure. The small circle is on the bank of the river, but there is no large circle connected with the works.

5. We do not then misinterpret the evidence given by the earthworks, when we say that the confederacies of the Mound-builders, whether situated along the upper, middle or lower Mississippi, the Cumberland, St. Francis, or Ohio River, or in Florida or the Gulf States, must have long preceded that of the Indians,* and that the history of these villages was quite different from that of the modern tribes. We go back to the time of the first discovery and examine the picture of the villages presented by the historians of Ferdinand De Soto's expedition, and find that they were thoroughly equipped with the machinery of government and religion, and are to be, by this means, distinguished from the villages of the Atlantic coast and the New England States,



Stockade Fort in Tennessee.



Stockade Fort in Ohio.†

where the stockade villages were prevalent, but the changes which came upon the Mound-building tribes, both North and South, broke up the early confederacies and in a measure obliterated the Mound-builders' cultus, so that we can, with no degree of propriety, use the term Indian when we would describe this earlier condition, even if we were convinced that the Mound-builders and the Indian were of the same stock.

On this point there is great uncertainty, for the best authorities maintain that there were from two to four races in the Mound builders' territory. The pyramids at the South were

---

* Antiquities of Southern Indians, p. 126, by C. C. Jones.

† The stone fort in Tennessee and the earth fort in Ohio (see cuts above) illustrate the cultus of two periods. The stone fort was upon an eminence. It contained tw · pyramids. One of these was occupied by two lookouts, twenty feet high. This fort is on the bank of Duck Creek, just above a waterfall, and is full of the evidence of a skillful work and of an advanced people. The earth-work marks the site of an ordinary stockade village, located on the bluff, with the unfailing spring below.

occupied by a people who resembled the Polynesians, but the stockades of the North by a people who were more like the Mongolians. Relics of the Mound-builders resemble those found in Great Britain and the north of Ireland, and even suggest the transmission of the same myths and symbols from the eastern to the western continent. Let us look at the facts. In Goodyear's book on the Grammar of the Lotus,* is a picture of the divinity of the Gauls. In this picture the divinity is crowned with the horns of the deer, exactly as the Mound-builders' chief, found in the depths of the mounds on the Hopewell farm in Southern Ohio, was crowned.†

Mr. J. R. Nissley has described a pipe which combined the "cupstone" symbols, which are so common in Great Britain, with the serpent symbol. This pipe was in the form of a serpent, one cup mark in the head and another in the tail, the orifice between making the mouth-piece; but on the base of the pipe were several cup marks, making the pipe doubly symbolic.‡

The discovery of the Exeter vase of Nebraska, with its shallow receptacle and its four sides carved with animal heads, and the discovery of the Toronto pipe, with its distorted face, presenting the symbol of the tree and serpent on its side, will lead us to the thought that there must have been a pre-Columbian contact with other countries. The progress of pre-historic archæology is bringing out more and more the fact that there were great differences between the races.§

The skulls of the southern Indians certainly differ from those of the northern Indians, even if the language was the same. It is easy for a people to change language, but constitutional traits continue through many generations. The Cherokees, Iroquois, Dakotas, may have belonged to the same stock, separated from one another in the Ohio valley at some remote time, but they differed from the Muscogees and southern tribes, and as to the Shawnees, it is acknowledged they belong to a different stock from either. These facts should lead us to the habit of recognizing differences. If we are to take the traditions of the Indians into the account, we shall conclude that the southern Mound-builders came from the West, the northern Mound-builders from the East or Northeast.

If we are to obliterate all distinctions and to class the Mound-builders' cult with the modern Indian, making out that the historic tribes properly represent the pre-historic conditions, we may as well give up our study of pre-historic archæology, and for that matter the study of the science of sociology also, and say that there was no difference between a savage warrior and a settled agriculturist, or between the animal worshiper and the

---

* See Grammar of the Lotus.
† See Ancient Monuments.
‡ See American Antiquarian, Vol. XIV, No. 4.
§ See Thomas's History of Cherokees.

sun worshiper, between the stockade-builder and the pyramid-builder. The term Indian has been applied to all classes and all grades and all districts, embracing the Eskimo fisherman, the Indian hunter, the southern agriculturist, Zuni, Pueblos, the civilized Aztec, the Maya, but it is not the general name that we need so much as the specific term, and so we prefer to classify the works of the Mississippi valley under the name which has already gone into use and to acknowledge that there was a Mound-builder's cultus.

The theory that there was an American race which had only one language and one origin, and that this race occupied the entire continent and filled it with one type of mankind, has this evil tendency, it prevents us from drawing a distinction between the different languages, customs, symbols, and forestalls any inquiry as to previous migration or pre-historic contact with other races, but this theory is even worse, for it shuts our eyes to the distinction between the earlier and later conditions and puts everything on one dead level. We need a closer analysis and minute distinctions rather than these grand generalizations.*

If there was a historic, a proto-historic and a pre-historic period on this continent, we want to know the differences in the cults rather than the resemblances. These differences are shown by the specimens of art and architecture that still remain, and we need to study these so as to assign them to the different periods and races. When we study the pre-historic works, we recognize the differences between them and ascribe these not only to the different modes of life and religious systems which were adopted by the races, but we also assign the different cults to the period and age to which they belong?

It was this mistake which that eminent author, Mr. L. H. Morgan,† made while treating of American Sociology and which many of his disciples are making to this day. He took the cultus of the Iroquois, with which he was familiar, and made it a pattern for all the native tribes and races, reducing everything, civilized and uncivilized, to the same simple elements. The long house of the Iroquois served as a pattern to him for the houses of the Mound-builders, and seemed to prove that the same communistic state everywhere prevailed. He went so far as to reconstruct a Mound-builders' village after the same pattern, and placed the long houses on the summit of the walls, instead of inside the enclosure.‡ He imagined that the Pueblos, of Arizona, served as a pattern for the cities of Mexico and Central America and called all the places of that region communistic houses.

He maintained that the civilized races, were all of them, not only organized into clans, but were in the communistic state;

---

*See Brinton's American Race.
†See Morgan's Ancient Society.
‡See North American Review; see Morgan's Houses and House Life; see Contributions to Ethnol. Bureau, Vol. III.

that their cities were nothing but Pueblos and their kings nothing but chiefs; that everything about them must be reduced to a primitive state and run in the same mold which the Iroquois furnished.

II. We are to notice the variety in the architecture of the villages, especially when we are studying the village life of the Mound-builders and seek to recognize the differences between them and the other tribes or races. While we acknowledge that village life was universal in America, yet it differed according to locality, each race or tribe having impressed upon their villages their own ethnic states and customs. The tribes, to be sure, were composed of clans, and the clans were generally gathered into villages, each clan having a village by itself.

The clans or tribes might be organized into a confederacy, the land belong to the confederacy, but it was divided and held by the clans and could not be alienated except by consent of the clans when assembled together. There was no such thing as property in severalty or landed property. Sometimes there was the removal of a nation by reason of defeats and oppressions, but the conquered tribes, when they felt that their territory had been invaded and could not be held against their enemies, generally moved as a body. Their tribal organization was stronger than their attachment to their lands. The graves of their fathers were precious to them, but they would rather leave these than to have their tribe broken up. The element of religion came in. Ancestral worship prevailed among many of the tribes and thus threw an air of sacredness over the abodes of their ancestors and made their villages permanent. The graves were near the villages and the precious remains were under the care of the villagers as such. It was like tearing up everything that was precious to them when they were forced to move. It was for this reason that the village clans remained so long in their territory and defended themselves by such novel methods. It was for this reason also that the same clans, when they changed from one district to another, became so thoroughly disorganized. Having been driven from their original territory, in which their clan life had found such embodiment, they seemed to have adopted the customs and habits of the people into whose territory they migrated, making the old village sites their abodes, changing the old works into new uses. This question, as to what became of the Mound-builders of any one district, is perhaps to be answered in the same way. The Mound-builders were evidently as tenacious of their homes as the Cliff-dwellers, but there were tribes and confederacies which had long occupied certain regions and had reached a high stage of advancement and in the course of time had constructed a most elaborate system of works. These were driven off by the invading hosts of savage hunters and never again reconstructed their villages or

their homes. The change which must have come upon the country is exhibited as much by the different style of architecture which they adopted as by anything else.

The Indian villages on the Atlantic coast and in the state of New York seem to have been more permanent than those on the western prairies. They were frequently surrounded by stockades and were connected with one another by trails. The Indian villages of Virginia have been described by early discoverers. The village of Pomeiock was pictured by the painter Wyeth. From this we learn the arrangement of the village. We see the fields of corn, fields of tobacco, garden full of melons, forests full of deer, a pond in the back-ground; a broad roadway passes through the village; on one side are the houses of the chief, the houses for the preservation of the dead, and houses for the families; on the other side the dance circle, the feast tables, and the mourning places. The houses in the village are rectangular, with curved roofs, and resemble the houses of the Iroquois.

The picture of the village of the southern Indians represent the houses as circular, the roofs dome-shaped, with the stockade surrounding them. There is, however, no earth-work in either of these pictures. The villages were just such as were occupied by the later tribes when they were in a settled condition. These Indians, to be sure, might have possibly built earth-works at one time and abandoned the habit, but if so it must have been before the discovery. The natural supposition is that they were a different class of people, who came in after the Mound-builders. We divide the Mound-builders' villages into several classes, which differ according to their location, both in their method of defense, their general arrangement, style of architecture, class of relics which they contain, and the mode of life which they exhibit. Those of the effigy mounds being in one class, the "burial mounds" in another, and military works in another, sacred enclosures in another. The most remarkable of these are in Ohio, for they show that village life had reached a high stage. The villages of Arkansas are also to be mentioned. These were filled with lodge circles, and in these were large pyramidal or dormiciliary mounds and occasionally a lookout monnd. These resembled the Ohio villages, in that they were square enclosures, but they had no such elaborate gateways, and no such watch-towers within the gateways, and no concentric circles or combination of circles and squares, and no adjoining enclosures which contained altars or burial mounds; they were plain village enclosures, in which all the purposes of village life were carried out and only a single wall surrounding the whole, the defense being given by this wall and a stockade placed upon the summit. They resembled the villages of the stone grave people of Tennessee, in that they contained many graves within the enclosure, as well as lodge circles and pyramids. These

may be called the villages of the pottery-makers, for large quantities of pottery have been found in the enclosures. Entire mounds of large size have been opened and found full of nothing but pottery. The villages of the Gulf States were peculiar. These, for the most part, were destitute of any circumvallation. In its place, however, is to be found a large moat, which served all the purposes of a moat around a feudal castle, the defense of the village having been formed by a palisade of timbers, with gateways and, perhaps, draw-bridges.

The chief peculiarity of these villages is that there are so many pyramids grouped around a central area, with the abrupt sides turned toward the moat or fish-ponds, but the sides on which approaches and graded ways and terraces are to be seen are directed toward the central area. The villages of the eastern district of the Gulf States are also marked with pyramids, but they are generally pyramids placed in pairs—one of them being rectangular, with terraced sides and graded ways for approaches; the other oval or conical, with its summit truncated, and a spiral pathway leading to the summit. In these villages was a chunky yard, also a distinctive feature; the rotunda, having been elevated on the summit of the cone, was placed at one end of the yard, the pyramid, with the chief's house on its summit, was located at the other end of the yard. The area within the yard was used as the public square or campus, the dance ground or the place for the trying of captives. Descriptions have been written by various travelers, such as Adair and Bartram, who visited these villages when they were occupied by the Cherokees, so we that know exactly the use to which each part of the village was applied. Descriptions given by the Portuguese traveler, the historian of De Soto's expedition, reveal to us also the use which was made of the pyramids in the western district by such tribes as dwelt there at the time.

The Tennessee villages were furnished with more conveniences and show better provisions for defense, for subsistence and for the carrying out of all the purposes and customs connected with village life, but they were, after all, arranged after the same general plan and show the same clan organization. The houses were generally arranged around a public square, within which the people assembled, making it a common campus. The temples, council houses, dance grounds and burial grounds they placed separately by themselves, making them somewhat exclusive and more sacred than their private houses. There were in all the villages provisions for the different classes—governmental and common—and conveniences for religious ceremonies, popular assembles, festivals and amusements, and for burials.

In the ancient villages of Ohio, there seems to have been a separate enclosure for each of the classes and for each especial purpose. The clan elders had their houses inside of the square

enclosure and the people had their lodges inside of the large circle; but the religious houses or round houses were located in a small circle adjoining the two, the burial places and dance grounds being placed in enclosures by themselves. Some of these villages in Ohio present evidence that there was a sacrificial

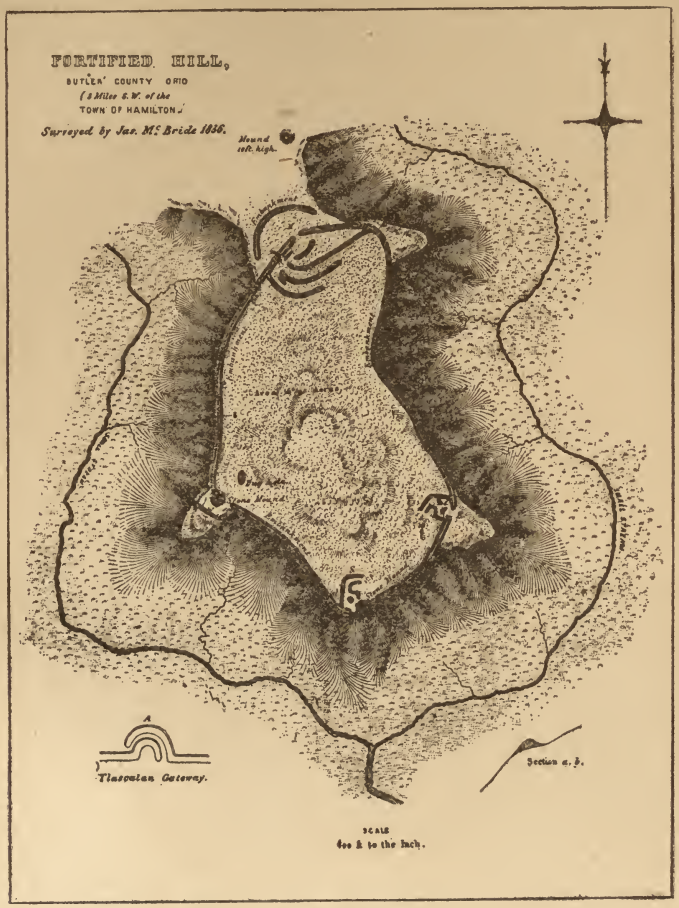


*Fig. 10.—A Mound-builders' Fort.**

place in the midst of the large enclosure, and human sacrifices were offered to the sun.

This thought that the Mound-builders had reached a stage where the different classes were recognized and where conveniences were provided for them is worthy of notice, for in this consists one great difference between the ages. It matters not

*The works represented by this cut and the one on page 138 are situated in Butler County, Ohio. The difference between the walled villages and the forts will be seen from the cuts.

REESE LIBRARY OF THE UNIVERSITY

what stock or race was represented by the villages, yet the fact that there are earth-works which were occupied by the different classes shows that the cultus was entirely different from that of savagery. Savages may indeed have had chiefs and clan elders and priests or medicine men, but their villages were rarely built to accommodate these different classes.* The fact that there were different kinds of villages in the same territory is then important in this connection. It appears also that at one period there were tribal capitals or central villages, and perhaps places of tribal assembly for the observance of religious ceremonies, as well as clan villages.†

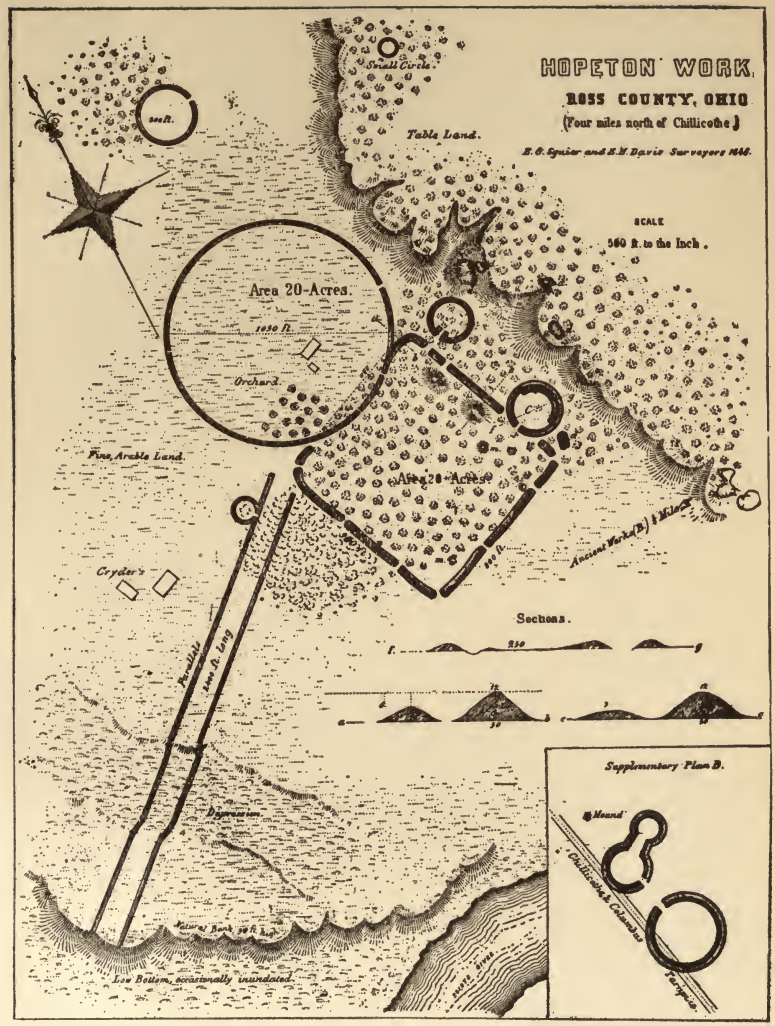
The proximity of villages to one another and their location along the valleys of the streams show that the tribal system prevailed, and that the tribes took the rivers for their habitats, the villages being the abodes of the clans. The discovery of the central villages and works peculiar to themselves proves also that there were confederacies which combined the tribes. These filled the districts with the works devoted to defense, government and religion, as well as domestic life, and so gave great variety to the earth-works.

The defense of the village varied according to the locality. In some places it was secured by placing a heavy earth wall around the entire village; in others by placing the villages in the midst of isolated tongues of land, making the position a source of safety; in others the pyramids were erected, their abrupt sides forming a barrier against approach, while the terraced sides and graded way furnished easy access to the people who might desire to resort to their summits in time of danger. The groups of pyramids were sometimes surrounded by moats, which served as fish-ponds in times of peace but barriers in times of war, resembling in this respect the feudal castles. There were a few villages that were destitute of circumvallation, though these were perhaps at one time surrounded by timber palisades or by stone and earth walls, which have disappeared. The size of the enclosures varied according to the population they were designed to accommodate. They varied from twenty-five to two hundred acres. In some cases‡ there were several adjoining enclosures, so that the village would be divided into two or three parts, the entire circumvallation extending several miles, including one or two hundred acres, and in other cases§ there was a single enclosure, everything being included in that.

Burial mounds are generally connected with villages. These vary also according to the district. Those in the prairie region form one class, those in Ohio another class, and those in the Gulf States still another class, recent explorations show-

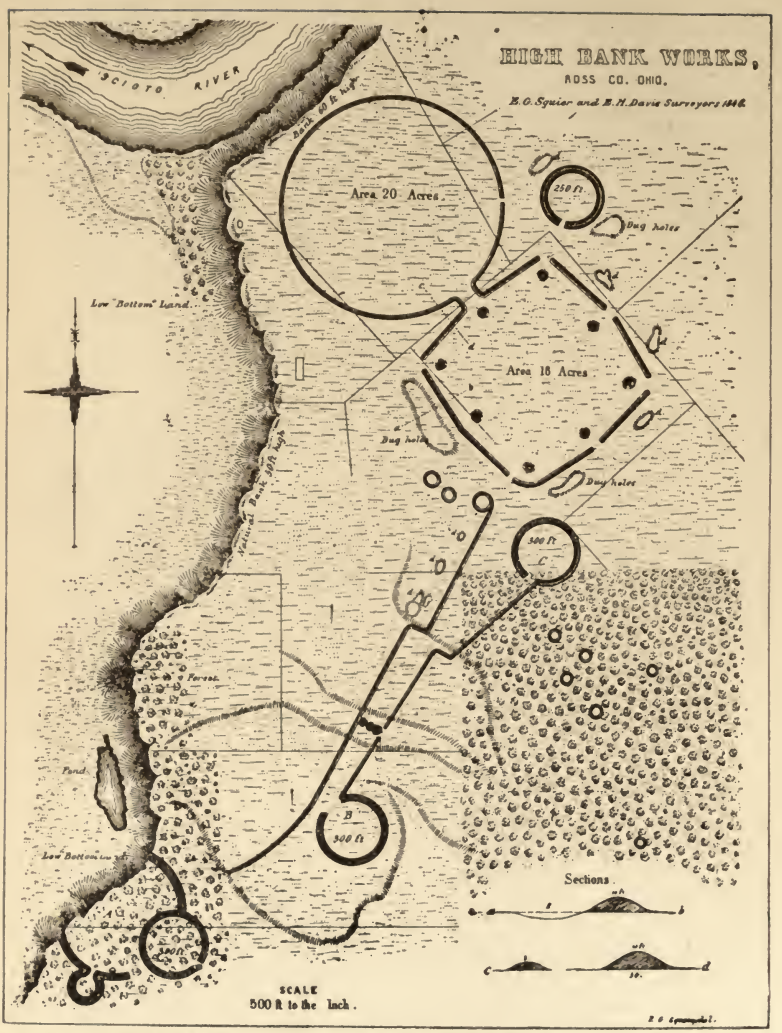
*Mr. Thruston thinks there was a division of labor, and refers to the trowels discovered among the stone graves as proof that the plasterers' trade was followed.

†Aztlan, Marietta and Portsmouth were capitals; Newark, Circleville and many other places were clan villages. ‡In Ohio. §In Indiana.



VILLAGE ENCLOSURE AND COVERED WAY.

The works at Hopeton represent the character of the ancient Mound-builders' villages. They were situated on the third terrace, just below an elevated plain; the rectangle measures 950 by 900. the circle 1,050 feet; twelve gateways, each 50 feet in width. The two circles measure 200 and 250 feet; one covers a gateway, the other cuts into the square. The walls of the rectangle were 12 feet high and 50 feet base. Two parrallel walls extend toward the river, 2,400 feet in length, 150 feet apart They terminated at the foot of the terrace, where the river once ran, though a fertile bottom now intervenes. This covered way may have connected the village of Hopeton with Mound City, which is just opposite. This suggests the religious ceremony of crossing the river with their dead, similar to that of the Egyptians.



VILLAGE ENCLOSURE AND DANCE CIRCLE.

The Cedar Bank work is a square enclosure, and is but half a mile from Hopeton. Between the two were the large truncated mound and circle, giving the idea that these were the sites of temples where the villagers worshiped. The works at High Bank consist of one octagon 950 feet in diameter, a circle 1,050 feet, and four small circles 300 feet; the walls were formerly 12 feet high and 50 feet at base. A large truncated mound 30 feet high was formerly on the terrace, a quarter of a mile away. A covered way connects the village with the circle on the bank of the river. The river formerly flowed near the bank and cut away the terrace and part of the circle, leaving the bank 80 feet high, but now it flows at a distance. An Indian town was situated a short distance below this point and an Indian burial place on the brow of the hill, the two contrasting strangely with the ancient works of the Mound-builders. The plate illustrates the antiquity of the Mound-builders' villages.

ing that many of the large mounds, both pyramids and pyramidal and conical, were used for burial purposes. Altars have been found in some of them.

III. We now turn to a comparison of the village enclosures. This comparison might lead us to consider the villages of all the modern Indians. We shall, however, confine ourselves mainly to the enclosures of Ohio, for these seem to be the most complete specimens of village enclosures to be found anywhere among the uncivilized races. We find in them the elements which go to make up village architecture everywhere. The following are the elements given by the Ohio earth-works: 1, the circumvallation; 2, the lodge circle, including the estufas; 3, the temple platform; 4, the observatory or watch tower; 5, the covered ways, including the protected landing, or graded way; 6, the sacrificial place or sacred burial enclosure; 7, the fortifications; 8, the lookout mounds.

We now take up the description of the villages.

1. It should be noticed, that the villages of the different districts all had circumvallations which were very marked. The villages of the emblematic mound-builders had effigies near them, those of the tomb-builders had circles of burial mounds about them, those of the pyramid-builders had pyramids around them, and those of the lodge-builders had walls on the outside and lodge circles inside, to charactize them. In like manner the defenses of the serpent worshipers had the serpent effigy to characterize them, and the villages of the sun worshipers had the circle, crescent, horse-shoe, and other symbols to characterize them, each district containing a different religious system and a different class of works which embodied it.

There is this difference, between the villages of Ohio and those found elsewhere. The villages here were always characterized by a double or a triple enclosure, one of them being a square and the other a circle or a cluster of circles. That at Newark contains five enclosures and three sets of parallel walls, with an effigy in one of the enclosures and many small circles scattered around among the covered ways.

The most remarkable of all the village sites are perhaps those at Hopeton, Newark, Circleville, Highbank, and Twinsburg. That at Hopeton is the most beautiful, where there is a square and circle, and two or three smaller circles joining the squares on the outside. There are found on the third bottom. They consist of a rectangle with an attached circle. The rectangle measures 950 by 900 feet. The circle is 1050 feet in diameter. The gateways are twelve in number, and have an average width of about 25 feet. On the east side are two circles, measuring 200 and 250 feet, the gateways or opening to the circles corresponding to the gateways in the square. The walls of the larger work are 12 feet high, 50 feet wide at the base. "They

resemble the heavy grading of a railway, and are broad enough on the top to admit the passage of a coach." It is probable that on the summit of these walls there was a timber palisade resembling those at Circleville, or possibly like those described by Dr. William Dawson as Hochelega. There are no ditches outside the wall, but a ditch inside that of the smaller circles.

This characteristic of the Ohio villages has never been explained. It was probably owing to a peculiar social organization, but that organization is now unknown, and we are left only to conjecture as to what it was. The square may have been used for the governing class, very much as the truncated pyramids at the south were. The large circular enclosure may have contained the lodges of the common people, the village proper. The small circles may have been the sweat houses or assembly places for the villagers. In the cases where there are three enclosures, the third, which was a circle, may have been used by the priestly class, if we may suppose that there was such a class.

2. We have said that the enclosures were used as clan residences. These residences were in villages. Wherever there was a clan there was a village, and what is more the villages were not built by individuals or by families, but were built by the clan. We are uncertain what kind of houses they were. They may have been frail temporary structures built of poles, covered with skins, bark or dirt, similar to those of the Mandans. They may have been circular lodges, such lodges as have left their rings in many places in the south and west. They may have been long houses, however, built after the model of the Iroquois long house. There may have been a difference between them, some of them being mere circular lodges or tents, others square or rectangular buildings, resembling those built by the southern tribes—Choctaws, Chickasaws and Creeks. The sweat houses or estufas, or assembly places, may have been circular buildings, resembling the rotundas of the Cherokees, while the house of the chiefs may have been square, or rectangular, similar to those which were erected on the summit of the platforms or pyramids of the Gulf States. There are lodge circles or rings with fire-beds in Ohio, such as have been found in Tennessee and Missouri, and in some cases in Iowa. These lodge rings, however, are suggestive, for they show what might have been the arrangement of the houses among the Ohio mound-builders. These rings were generally placed in lines around the outside of a central square, or plaza, as the Spaniards call it. Somewhere in the enclosure there would be a high mound which was used as a lookout. This would be near the edge of the village.

3. In the center of most of these villages there is a platform or truncated pyramid, which is supposed to have been the place where the chiefs had their houses. This is the uniform arrange-

ment of the villages, as they are found in the mountain district of Tennessee and in the cypress swamps of Arkansas and Missouri. The arrangement of the Ohio villages may have been the same, at least there are platforms, elliptical or circular in shape, which are situated in the center, showing that a public building of some kind was in the midst of the enclosure.

4. The parallel walls form another peculiar feature of the villages of Ohio. These generally extend from the enclosures to the river's bank, but sometimes extend from one enclosure to another. They were probably intended to protect the people as they went to and from the villages. The works at Newark illustrate this point. (See the Plate.) These works are interesting. They are situated in the midst of a fertile plain, which is surrounded by high hills on all sides, one hill being especially prominent, the hill on which the alligator mound is situated. The works are very extensive. They cover in extent about two miles square, and consist of three grand divisions, which are connected by parallel walls. The most prominent is the circular structure, which is called the old fort. The area of this structure is something over thirty acres. In the center of it is the mound of singular shape, which is called the bird; the head of the bird pointed directly toward the entrance of the enclosure. This so-called bird originally contained an altar. It seemed to point out a religious design to the whole structure, and yet it may have been only a central object in the midst of a village, an object which would show that the villagers were peculiarly superstitious The gateway of this fort, so-called, is very imposing. The walls are not less than 16 feet in height, and a ditch within is 13 feet deep, giving an entire height of about 30 feet. "In entering the ancient avenue for the first time the visitor does not fail to experience a sensation of awe, such as he might feel in passing the portals of an Egyptian temple." Such is the testimony of the author of "Ancient Monuments," but the writer can bear witness that the same impression was made upon himseif when entering it for the first time. The circle is nearly a true circle, its diameter being 1189 by 1163 feet. The circle is united with a square by parallel walls, which form a wide covered way. There is between the square and the creek or river another large enclosure, which is partially surrounded by walls, and which has a complicated system of covered ways connected with it. This seems to have been the central spot for the two villages which were located here. It may have been a place of assembly, a dance ground or a feast place. There is a single circle within it, a number of conical mounds, and a graded way which leads from it to the edge of the terrace, situated south of it. This graded way is a peculiar work, but is similar to those found at Piketon and Marietta. The chief peculiarity of the work is that there are parallel walls; two of these, which are upwards of a mile in length, extend

from the works just described to the octagon situated west or northwest of the old fort or great circle. These parallel lines were probably covered ways, one of which connected the village enctosures with one another, the other connecting the west enclosure or octagon with the bottom land and river's edge, though the two covered ways are nearly parallel. There is a third line, which extends from the octagon southward for nearly two miles This covered way loses itself in the plain. It may have been designed to protect the villagers as they went to and from the fields.

In the center of the works, nearly surrounded by the covered ways, is a large pond, which may have served as a reservoir of water fot both villages, as access could be gained to it through the openings in the walls from either side. There are small circles scattered around among the works. These may have been the estufas or sweat houses, as they all have the same general appearance and dimensions. The chief feature of the work is the octagon and small circle.* The octagon has eight gateways, each gateway being guarded by an elliptical mound or truncated pyramid, 5 feet high, 80 by 100 feet at base. The circle connected with the octagon is a true circle 2080 feet —upwards of half a mile—in circumference. It has on the southwest side what was probably once a gateway, but it seems to have been abandoned and an observatory built in its stead. See Fig. 7.

5. The watch towers and observatory mounds are also to be noticed. The observatory at Newark is very imposing. It is 170 feet long, is 8 feet higher than the general embankment, overlooks the entire work, and may have been used as a look-out station to protect the fields adjoining. A number of small circles, which are called watch towers by Atwater, are found connected with the works, and are chiefly embraced in the area between the parallel walls.

In reference to the works at Newark in its different parts, Messrs. Squier and Davis say: "Several extraordinary coincidences are exhibited between them and the works situated elsewhere. The smaller circle is identical in size with that belonging to the Hopeton works and that at Highbank, which are situated seventy miles distant. The square has the same areas as the square at Hopeton and the octagon at Highbank. The octagon has the same area as the square at Marietta. There are mounds inside of the gateway the same as found in other places. The observatory here corresponds to the large observatory at Marietta, though that is somewhat higher. The small circles, which we call estufas, are of the same general character and

*Each has a diameter of about 200 feet, has a ditch interior to the walls, and elevated embankments in the shape of crescents interior to the ditch. This is the common form with all of the small circles which are so numerous in connection with the village sites.

dimensions as those found at Hopeton, at Highbank, at the junction group, and at Chillicothe. The resemblances between the village at Newark and those found elsewhere in this district are, we think, quite significant. We find in many of the other works, especially those on Paint Creek and in the Scioto Valley, that there are three enclosures, two of them being a circle and square, and a third being irregular in form, but generally larger than either the circle or square. This larger enclosure sometimes intervenes between the circle aud the square and sometimes it is situated at the side of each, making a tri-

Fig. 7.—Observatory at Newark.

angle with them. It is probable that the same use was made of this large enclosures in the other localities that was made of the large enclosure at Newark, the only difference being that connected with the circle and square, it constituted one village, but in this case it served for the two villages, the connection between them being secured by the parallel wall.*

6. We turn to the description of the graded ways. These are very interesting works, but confirm what we have said about village sites. There is a graded way at Newark, another at Piketon, another at Marietta, and another is said to be situated at Piqua. They all have the same general characteristics. They

*The reader will see this plainly by examining the plates in the Ancient Monuments. See Highbank works, Plate XVI, works on Liberty Township, Plate XY, works on Paint Creek, Plate XXI, 1 and 2, and works on the Scioto near Chillicothe, and on the north fork of Paint Creek, at Old Chillicothe, Plate XXI, Nos. 3, 4. See works at Hopetou, XVII, also works in the Scioto Valley, Plate II, also at Blackwater group, XXII, No. 2. Clarke's Works contains the square and the circle, but the circle is inside of the large enclosure, which is very much larger than the ordinary square, being 2800 by 1800 feet, and contains an area of 111 acres, instead of 50.

run from the terrace on which the village enclosure was situated down to the bottom lands. The bottom lands are now dry, but it is probable that at the time the works were built they constituted the river bed. The object of the graded way was undoubted to secure a landing places for canoes. The rivers of Southern Ohio are still subject to floods. They were probably severer in prehistoric times. The walls on either side of the graded way would serve a double purpose; they would protect the villagers as they went to the water's edge, and would also keep the canoes from being carried away by the sudden rise of the water. The graded way at Newark has a tongue of land which extends beyond the walls. This may have served

Fig. 8—Graded Way at Piketon.

as a sort of landing place or quasi wharf. Owl Creek, a small stream, flows south of this work. The elevated grade was extended out to the water in this creek. In the case of the graded way at Piketon and at Newark the incline begins at the bottom land and rises by a gradual ascent to the summit of the terrace. The breadth between the walls at Piketon is 215 feet at one end and 203 at the other, but the way is 1080 feet long; the rise is 17 feet. See Fig. 8. The height of the wall, measured from the lower extremity of the grade, is no less than 22 feet, but measured from the common surface varies from 11 feet at the brink to 5 feet at the upper terrace. The ascent is very gradual. At the upper extremity of the grade there is a wall which runs 2580 feet toward a group of mounds, which at present are enclosed in a cemetery. There is also another mound 30 feet high about 40 rods away. The object of this graded way is unknown, but judging from its similarity to other graded ways in the same state, we conclude that there was a village site on

the upper terrace, though there are no walls perceptible there. The graded way at Marietta is also very interesting. This has already been described. A distance of several hundred feet intervenes between the end of the graded way and the bank of the river, which is here 35 or 40 feet in height. It has been conjectured that the river flowed immediately at the foot of the way at the time of its construction. If so, it would prove the antiquity of the works to be very great. Graded ways similar to these in Ohio are found in Georgia in connection with the high conical mounds, but they generally lead to ponds, and may have been used for a different purpose.

7. In reference to the association of the fortifications with the villages and the sacred enclosures, a few words will be appropriate. It is explained by the peculiarities of clan life. It appears that among all uncivilized races the clan was the unit. The family was nothing when compared with the clan. In fact, the clan seemed to be more important than the tribe. It was much more important than the nation, if the nation existed. It is probable that the communistic system prevailed in most of the clans. Subsistence was secured by members of the clan. The burials may have been in clans, or by a number of clans uniting together. The so-called altar mounds were probably the places where several clans were brought together and presented their offerings and made their burials. The fortifications were also places where the clans came togeter for common defense.

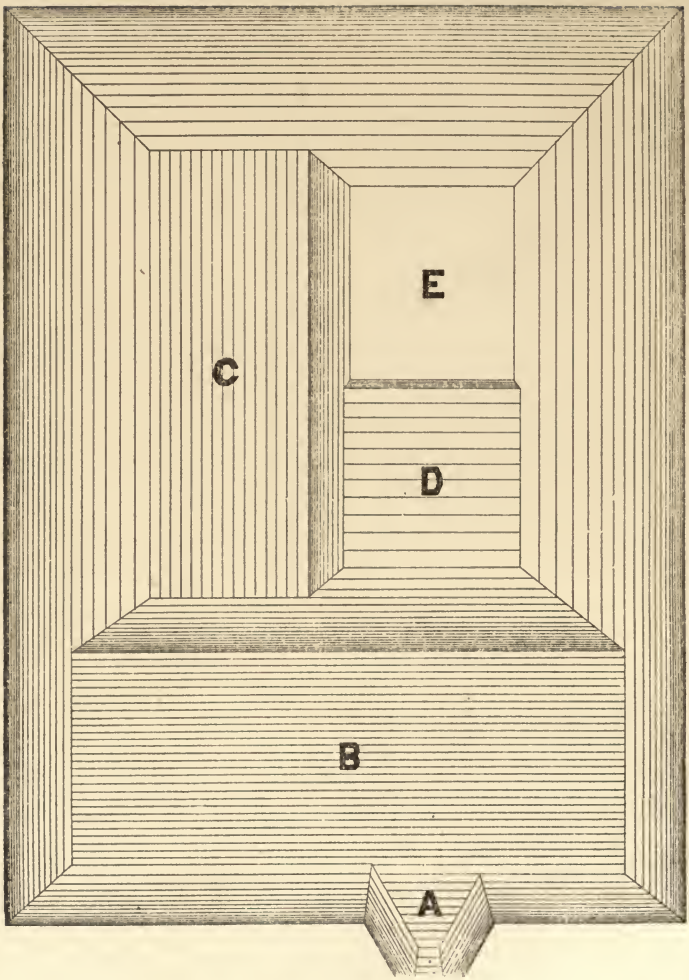
Many of these hill forts are situated in the midst of village enclosures. One of them, that at Bourneville, has been frequently described. It is very large, containing 140 acres, being situated in the midst of the villages on Paint Creek. The Ancient Fort and that at Hamilton, on the Great Miami, were also large. These were situated not far from other village enclosures. The fortified hill called "Fort Hill," in Highland County, is not very far from villages, being but thirty miles from Chillicothe. The fortified hill near Granville is near the works at Newark, but it was probably built by a later race, as it differs very materially from the works at Newark. The ancient works on Massey's Creek, in Greene County, may have been erected by the typical mound-builders of the district, but of the works at the mouth of the Miami, on the Great Miami, in Butler County and Hamilton County, there is some uncertainty. Some of them may have belonged to the typical mound-builders, but others may have been built by an earlier or a later race.

This is also the use which was made of Fort Ancient. A part of this had been built by a race of effigy-builders, the same race who built the great serpent and made it the great center of serpent worship. A part of it, however, was probably built by the same people who erected the village enclosures, who were sun worshipers. There are some reasons for believing that the ser

pent worshipers migrated from this part of Ohio and afterwards became the effigy-builders of Wisconsin, as there are many serpent effigies scattered along the bluffs of the Mississippi River, the route which they are supposed to have taken in their migration. The sun worshipers may possibly have been the same people, and yet the probability is that they migrated southward and became the pyramid-builders of the Southern States, embodying that worship in the pyramid as they had here in the circles and crescents.

8. The connection of the village enclosures with the lookout mounds is our last point. These lookout mounds may have been used by all of the different tribes or races which occupied the district, but it is plain that they were also used by the people of the village enclosures. Squier and Davis speak of the lookout on the top of the hill above Chillicothe, the lookout which commands a view of the whole district in which the villages were situated. The writer has visited the great mound at Miamisburg, and found that it commanded a view of the valley in which were the works at Alexandersville, and at the same time was connected with others which reached as far as Fort Ancient. One peculiarity about this mound was noticed. At a certain height on the side of the mound the view extended over the valley where were the various earthworks, but it was limited by surrounding hills or headlands. The summit, however, gave a view of other hills beyond these, and the writer was convinced that it was raised to this height in order that signals might be exchanged between those who were living in the Miami valley and those who were living in the valley west of it, thus showing that the White River and the Miami River were included in one district. Rev. T. J. McLean has also studied out the signal stations and made a complete net-work of them throughout Butler and Hamilton Counties, Whether this system of signal stations extended beyond the district which we are now describing we are unable to say, but we have no doubt that the signal stations were used by the village people who erected the typical earth works of Southern Ohio. Grave Creek mound may have been one of the signai stations, an outwork which was farthest to the east. The high conical mound at Marietta was another. The high conical mound at Circleville reached the height of ninety feet; this is another of the signal stations which were used by the village Indians.

MONK'S MOUND AT CAHOKIA, ILLINOIS.



MONK'S MOUND IN RELIEF.

CHAPTER X.

PYRAMIDAL MOUNDS IN THE GULF STATES.

One of the most interesting localities for the study of the prehistoric monuments of this country is the one which is found on the banks of Cahokia Creek, some twelve miles from the City of St. Louis. Here the largest pyramid mound in the United States is to be seen, and with it many other mound structures, which are as curious and interesting as the great mound itself. It should be said that this is the northernmost point at which any genuine pyramid mounds of the southern type have been recognized, but it is a locality in which all the peculiarities of that class of earth-works are exhibited. There is certainly a great contrast between these works and those situated in the northern districts; but the fact that this large group has been introduced into the midst of the northern class, and in close proximity to many specimens of that class, makes the contrast all the more striking and instructive.

It has been the privilege of the writer to visit the various groups scattered along the Mississippi River from its head waters to this point, and to study the characteristics of each group as they were gradually brought before the eye. The contrasts between the effigy mounds of Wisconsin and the burial mounds of Northern Illinois are certainly very striking. The works of serpent-worshipers are, to be sure, intermingled with them, but the change from the pyramidal mounds to the burial mounds, makes the contrasts all the more impressive.

The conditions of life in the different parts of the Mississippi Valley seemed to have varied according to the climate, soil and scenery, but they are so concentrated into a narrow compass that one may, by the aid of steam and the railroad train, pass in one day from the midst of the wild savage hunters of the north into the very midst of the works of the semi-civilized agricultural people of the south, and may find the whole panorama of the prehistoric races unrolled and the whole condition of society in prehistoric times rapidly brought before the eyes. Cahokia mound is at first disappointing (see Fig. 1), for it is not as imposing as some have represented it to be, and yet the consciousness that a great population once swarmed here and filled the valley with a teeming life made the spot a very interesting one. There was also a double presence which was forced upon

the mind—the presence of those who since the beginning of historic times have visited the region and gazed upon this very monument and written descriptions of it, one after the other, until a volume of literature has accumulated; and the presence of those who in prehistoric times filled the valley with their works, but were unable to make any record of themselves except such as is contained in these silent witnesses. There is, perhaps, no spot in the Mississippi Valley which has been oftener visited by distinguished persons and no monument which has oftener gone into history. Descriptions of it began as early as the time of Marquette and the French missionaries; they appear again in the time of Gen. Rogers Clark and the conquest of the country from the Indians; they come out again in the time of the early explorers and travelers, Brackenridge, Latrobe and others, and continue to the present day,—missionaries, early

Fig. 1—Cahokia Mound.

travelers, military generals, historians and modern archæologists vying with one another in describing the scene. We shall offer no minute description of our own, but shall quote from different travelers who have visited the spot and who have seen the earthworks before they were so sadly despoiled by the aggressions of modern days. Probably not one fifth of the mounds and earthworks which formerly covered this broad valley, and which also surmounted the bluffs adjoining, can now be seen. The growth of the great City of St. Louis has destroyed the last vestige of the large group which could once be seen there, and all of the pyramids, cones, "falling gardens," terraces and platforms, which once attracted attention, have disappeared. Twenty-seven large mounds once stood on the bluff, making it memorable as the location of a large village, which was similar in many respects to the one where the great mound now stands, but they have been destroyed and can not now be studied.

We shall go back for our descriptions to the author who has given the earliest and fullest account—J. M. Brackenridge. He says: "There is no spot in the western country capable of being

more highly cultivated or of giving support to a numerous population than this valley. If any vestige of ancient population could be found, this would be the place to search for it; accordingly this tract, as also the tract on the western side (Mound City, now St. Louis), exhibits proof of an immense population. The great number of mounds and the astonishing quantity of human bones dug up everywhere or found on the surface of the ground, with a thousand other appearances, announce that this valley was at one time filled with inhabitants and villages. The whole face of the bluff or hill which bounds it on the east appears to have been a continued burying ground. But the most remarkable appearances are the two groups of mounds or pyramids—the one about ten miles above Cahokia (a village nearly extinct), the other nearly the same distance below it—which in all exceed in number one hundred and fifty mounds of various sizes. (See map.) The western side (St. Louis) also contains a considerable number. A more minute description of those above Cahokia, which I visited in 1811, will give a tolerable idea of them all. I crossed the Mississippi at St. Louis. After passing through the wood which borders the river, about half a mile in width, I entered on an extensive plain and found myself in the midst of a group of mounds, at a distance resembling enormous hay-stacks scattered through a meadow. One of the largest, which I ascended, was about two hundred paces in circumference at the bottom. The form was nearly square, though it had evidently undergone some alterations by the washings of the rains. The top was level, with an area sufficient to contain several hundred men. The prospect from the mound was very beautiful. Looking toward the bluffs, which are dimly seen at a distance of six or eight miles, the bottoms at this place being very wide, I had a level plain before me, bounded by islets of wood and a few solitary trees; to the right (the south) the prairie is bounded by the horizon; to the left the course of the Cahokia River may be distinguished by the margin of wood upon its banks. Around me I counted forty-five mounds or pyramids, beside a great number of small artificial elevations. These mounds form something more than a semi-circle a mile in extent, to the open space on the river. Pursuing my walk along the bank of the Cahokia I passed eight others in a distance of three miles before I arrived at the largest assemblage. When I reached the foot of the principal mound, I was struck with a degree of astonishment not unlike that which is experienced in contemplating the Egyptian pyramids. What a stupendous pile of earth! To heap up such a mass must have required years and the labor of thousands. Were it not for the regularity and design manifest, the circumstance of its being alluvial ground, and the other mounds scattered around it, we would scarcely believe it to be the work of human hands." Brackenridge also says: "The shape

ESE LIBRARY

is a parallelogram, standing north and south. On the south side there is a broad apron or step, and from this another projection into the plain which was probably intended as an ascent to the mound. The step or terrace has been used for a kitchen garden by some monks of LaTrappe settled near this, and the top of the structure is sown in wheat. Nearly west was another of smaller size, and forty others were scattered about on the plain. Two were seen on the bluff at a distance of three miles. I every where observed a great number of smaller elevations at regular distances from each other, and which appeared to observe some order. I concluded that a populous city had once existed here, similar to those of Mexico described by the first conqueror. The mounds were sites of temples or monuments of great size."

We have given the quotation for the sake of showing the impressions which were formed by the works when they were first visited and when the country was in its native wildness, with no work of modern civilization to mar the scene. It will be learned from the description that there were at the time several large groups of mounds—one situated on the bluffs where St. Louis now stands; another on the bank of the Mississippi River, not far from the present site of East St. Louis; a third on the bottom lands, about ten miles below the old village of Cahokia; the fourth about ten miles above the old village, which is the group in which we are especially interested.* We speak of this because there has been a general impression that the celebrated "Cahokia" mound, or more properly "Monk's" mound, is a solitary pyramid, and that it has no connection with any of the works in the vicinity. Mr. Brackenridge unconsciously corrects this impression, for according to his description the works of the entire region were all of them of the same class, the majority of them having been truncated pyramids. It should be said that there are lookout mounds at various points on the bluffs, which command extensive views across the country into the interior, and which must also have served as beacons or signal stations for the villages which were scattered throughout the bottom lands. Two of these are mentioned by Mr. Brackenridge as in plain sight from Monk's mound. One of these is now called "Sugar Loaf." It forms a prominent mark in the landscape, as its towering height can be seen at a great distance. So favorable was the mound as an observatory that the Coast Survey took advantage of it and made it a station for triangulating. Our conclusion is that the whole system of works on the great American bottoms was connected together, and that here at the mouth of the Missouri, a colony resembling the race of southern

*Mr. McAdams says there is a group at Mitchell Station, half way between St. Louis and Alton, which contains several large platforms, one of them measuring 300 feet on the side, 30 feet high. This mound was excavated for four railroad tracks and many relics taken out—copper spools, awls, needles and an ornament resembling the shell of a turtle, and most important, the teeth of a buffalo.

mound-builders had long made their home, but were driven off at some time preceding the date of history by the hunter tribes, who came down upon them from the north.*

We here make a record of an observation which amounts to a new discovery, It was noticed by the writer as he ascended the great mound that it was in the midst of a large group of similar mounds; that the mounds surrounding it were arranged in pairs—a conical mound and a pyramid constituting a pair—and that each one of these separate pairs was placed on lines which are parallel to the sides of the great pyramid, and that they were all orientated, the sides always facing the points of the compass. It was noticed also that in some cases the ground was raised between the truncated pyramid and the conical mound, giving the idea that there may have been here a chunky yard or play-ground, the same as there was between the public squares and the rotundas, which have been described by Adair and Bartram as common in the villages of the southern Indians. In one case, about half a mile to the east of the great pyramid, there was a high platform or pyramidal mound, and immediately adjoining it on the north was a large platform, but at a lower level and on the northeast corner of this platform, was a large conical mound, the three parts being in close proximity, the arrangement of the three reminding one of the relative location of some of the so-called sacred enclosures of Ohio, where a large circle intervenes between a small circle and a large square enclosure, the three being joined together by protecting walls. This discovery of the peculiar grouping of the surrounding mounds was made while looking down upon the scene. A very beautiful pair of earth-works stands immediately south of the great pyramid, each one presenting its sides covered with varied foliage, the golden autumnal tints being set-off against the silvery radiance of the little artificial lake which lay in the background. The size of the pyramids adjoining the great pyramid can be learned from the circumstance that nearly all of the large farm-houses in the region are built upon the summits, the pyramids being large enough to accommodate the houses, with their out-houses, barns, lawns and other conveniences of residence. One of these, the one at the west had been graded down about eight feet, but others were left at their natural height. The houses are arranged along the sides of the common highway, which here constitutes the line between two counties, the distance from one end of the group to the other being about three miles from east to west, and two miles from north to south. The arrangement of the group

*See Antiquities of Monk's Mound, published by W. R. Brink, Edwardsville, Ill., 1883; Foster's Prehistoric Races, p. 107; Ancient Monuments, p. 174; Twelfth Report Peabody Museum, p. 472. It should be said that the mound which Dr. J. H. Foster describes as having been removed was situated at Cahokia, and in that vicinity still goes by the name of the great Cahokia mound. We judge that this mound had a tower or conical mound on its summit 10 feet high, which, on exploration, yielded human bones, funeral vases and various implements.

is peculiar. There are pyramids and conical mounds close by the side of the great pyramid; beyond these are similar works, making several pairs east and west and several pairs north and south of the great pyramid, all of them arranged with their sides facing the sides of the central pyramid, and all of them overlooked by its towering height. There are also many artificial ponds, whose waters glisten beneath the dark shadows of the many earth-works, making a varied scene.

2. As to the size and shape of the great mound, we shall give the descriptions of others, for the reason that many of them have had better opportunities for observing and measuring them than we have. It may be said, however, that the descriptions which have been written so vary in their details that we are uncertain which account to believe.

Squier and Davis speak of the mound, but seem to have given the wrong dimensions. They say: "It covers not far from eight acres; its summit has an area of about five acres; its solid contents may be roughly estimated at 20,000,000 cubic feet. It is nearly ninety feet high, is built in terraces, and is reached by a graded way which passes up at the south end."

Mr. William McAdams says: "We have surveyed the group, and found that the great pyramid is surrounded by seventy-two others of considerable size within a distance of two miles. The largest axis of the pyramid is 998 feet, the shortest is 721 feet, and it covers sixteen acres, two rods and three perches of ground. He says: "After many days of exploration and study, we believe the evidence to prove this to be a group of the greatest mounds on this continent and perhaps in the world, and possibly this was the Mecca or great central shrine of the mound-builders' empire. Upon the flat summit of the pyramid, one hundred feet above the plain, were their sanctuaries, glittering with barbaric splendor, and where could be seen from afar the smoke and flames of the eternal fire, their emblem of the sun."

Prof. Putnam says: "Situated in the midst of a group of about sixty mounds of more than ordinary size, several in the vicinity being from thirty to sixty feet in height, and of various forms, Cahokia mound, rising by four platforms or terraces to a height of about one hundred feet, and covering an area of about twelve acres, holds a relation to the other tumuli of the Mississippi Valley similar to that of the great pyramid of Egypt to the other monuments of the valley of the Nile." Dr. J. J. R. Patrick, residing in the vicinity, has made a survey of the group and prepared two accurate models of the mound itself—one of them representing the mound as it now exists.

Featherstonaugh visited the mound in 1844, and says that the settlement of the monks was on a smaller mound to the west, but at the time of his visit the building in which they had lived had been leveled with the ground. He also states that a Mr.

Hill was living in a house he had erected on the top of the great mound; that upon digging for the foundation, "he found large human bones, with Indian pottery, stone axes and tomahawks." We judge from Brackenridge's account that there was no roadway to the summit in his time, but that the one which now appears must have been made by Mr. Hill, the owner, and that the well which is now in ruins was dug by him.*

In reference to the present condition of the mound, we have to say that an air of waste and ruin surrounds it; deep gullies are worn into its sides, and it seems to be wrinkled and ridged with the marks of its great age. See Plate I. Though surrounded by many other structures, on which there are signs of modern life, this seems to be deserted. The very house which was found upon its summit has been leveled to the ground, and the home of the present owner, situated a little to the rear of it, seems to hide itself in the shadows of the great monster. It stands like a solemn monarch, lonely in its grandeur, but imposing in its presence. Though the smoke of the great city may be seen in the distance, and many trains go rumbling across the valley and through the great bridge which spans the river, yet this monster mound stands as a mute witness of a people which has passed away. It is a silent statue, a sphinx, which still keeps within its depths the mystery which no one has as yet fathomed. It perpetuates the riddle of the sphinx.

3. As to archæological relics. It is remarkable that the spot continues to yield such an amount of them after so many years of exploration and curiosity hunting. In the field adjoining one may find beautiful fragments of pottery, some of which bear the glaze and red color which formerly characterized the pottery of the Natchez Indians. There are also vast quantities of bones hidden beneath the surface, and one can scarcely strike a spade through the soil without unearthing some token of the prehistoric races. Mr. Ramey, the owner of the mound, speaks about digging in one part of the field and finding heaps of bones eight feet deep, and says that the bones are everywhere present. The workmen who were engaged in digging ditches for underdraining had a few days before come upon large quantities of pottery and skeletons of large size, but had carelessly broken them instead of preserving them. As to the character of the pottery and the patterns contained in them, we notice some remarkable resemblances between the pieces exnumed here and those which are found in the stone graves of Tennessee. One specimen was

*A well was dug by Mr. Hill. This well was eighty feet deep. At sixty feet they found fragments of pottery and corn carbonized and bones. The water from the well was never used, as it always had a peculiar taste, and the supposition was that human bodies were buried in the mound. The cellar dug by Mr Hill showed the moSnd to be stratified. An excavation by Mr. Ramey, on the north side, revealed the same. A piece of lead or galena was found at the end of the tunnel, which extended about fifteen feet in towards the center of the mound. McAdams says the area on the top is an acre and a half.

especially interesting. It represented a squirrel holding in its paws a stick, the teeth placed around the stick as if gnawing it, the whole making a handle to the vessel. We noticed also a frog-shaped pipe made from sand-stone, and many other animal-shaped and bird-shaped figures. The object which impressed us most was a sand-stone tablet, which contained figures very much like those found upon the inscribed tablets taken from one of the mounds of the Etowah group in Georgia. It was evident that this tablet was covered with a mysterious symbolism, and suggested the thought that the same people who erected the southern pyramids, and who embodied in them the various symbols of sun-worship, also erected here these great mounds under the influence of the same powerful religious cult. What that cult was, we shall not undertake to describe, but it was undoubt-

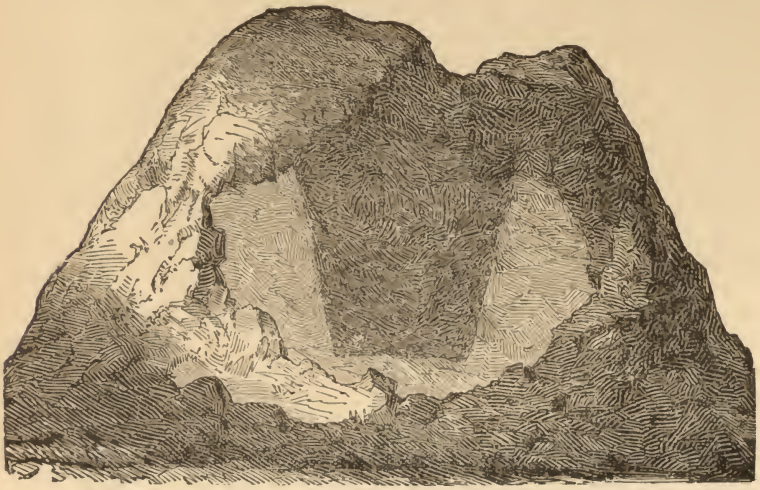
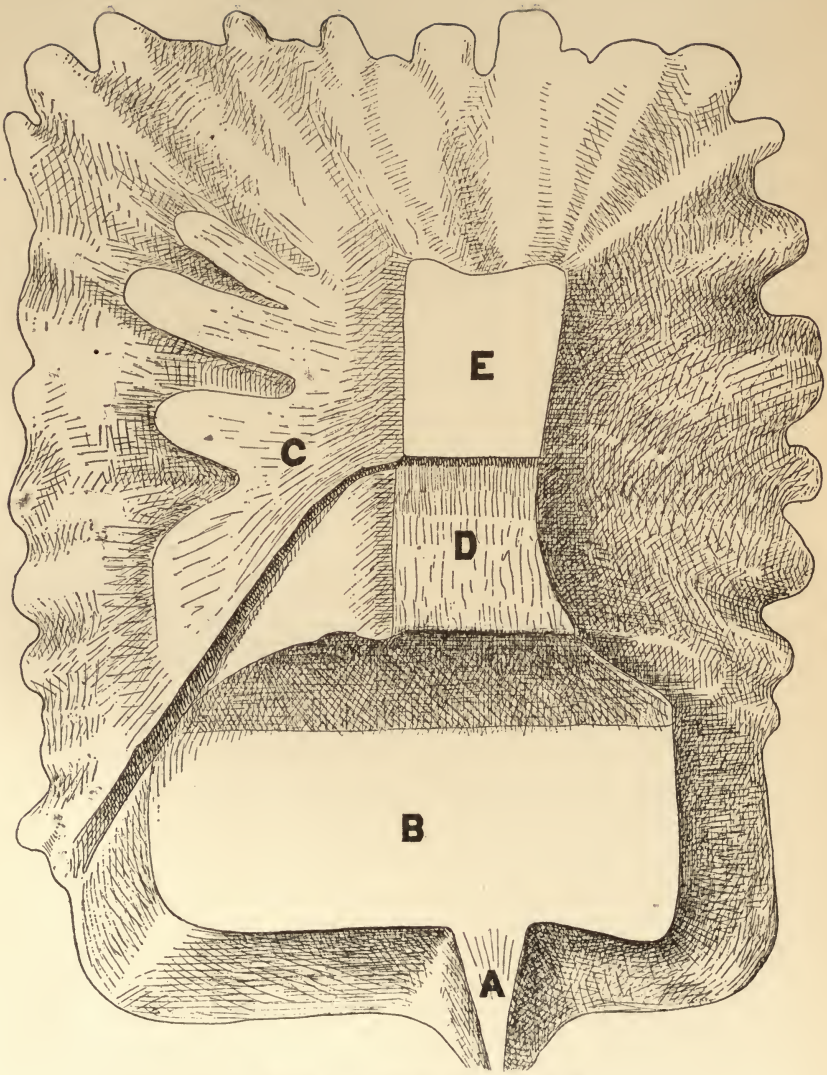


Fig. 2.—Big Mound at St. Louis.

edly a superstition which held under its control the entire people and led them to erect these great monument even at the expense of long and protracted labor.

4. In reference to the symbolism which was embodied in this great work, we may say that the terraces are four in number, the first, second and third being about thirty feet in height, the fourth being at present but about four feet, though it has been reduced from its original height. The terraces seem to cut across the whole face of the great pyramid on the south and west sides, but the north and east sides are steep and inaccessible. There is a striking analogy between this pyramid and the one at Copan in Central America. See Fig. 1. There is also the same method of orientating the pyramids here and in Central America that is found in ancient Chaldea and Assyria, though here the sides are



MONK'S MOUND IN RELIEF.

toward the points of the compass rather than the angles. The pyramids are built in stages, though there are here only four platforms; in Chaldea there are seven. Our conviction is that a race of sun-worshipers occupied this region, but it was a race which differed materially from the serpent-worshipers which dwelt immediately north of them and whose effigies we have recently discovered. We are aware that Mr. McAdams believes that the dragon was symbolized in some of the molded pottery and that the famous image of the Piassa, which formerly was to be seen on the face of the rocks near Alton, belonged to the same people who erected these pyramids. He also says: "As he looked down from the conical mound south of the great pyramid upon the pond which lies below, he seemed to be looking into the ever-present eye of the Manitou that had glared at him from the bluffs and caverns, and which is so common on ancient pottery, the oldest symbol in the world." We are free to say that the pond does have a remarkable resemblance in its general contour to the symbol which is composed of eyes and nose, and and which is supposed to have been significant of the face of the sun and at the same time contained the phallic symbol.

It will be noticed that the pyramid mounds were built for a people who differed very materially from the wild Indians who roamed over the northern districts, as their tribal organizations and wild condition did not admit of the social grades which are apparent here. Still it is worthy of mention that a Kaskaskia chief told Gen. George Rogers Clarke that it was the palace of his forefathers, that "the little mountain we saw there flung up with a basin on top was a tower that contained a part of the guard belonging to the prince, as from the top of that height they can defend the king's house with their arrows."

When the Indian tribes were visited by Ferdinand De Soto, he found the whole territory filled with walled towns. Sometimes they contained a population of several thousand inhabitants, and they were surrounded by palisades and protected by gateways. The house of the chief or sachem of the tribe was often built upon an artificial mound, and so-called temples or altars of worship were built upon raised foundations of earth. Some writers describe these mounds as the places of burial for their dead chieftans; but others as the residences of the chief or brother of the sun; and by others it is stated that the house of the great sun stood upon one mound and the temple of the priest was on another mound—both of the same height. Here, however, we have not only the residences of the chiefs and priests, which were undoubtedly erected on the summit of the mounds, but we have in the center of them all the great temple. It is probable that this was the assembly place of the tribe, and that there was a building which corresponded to the "long house" of the Indians and the capitol of the white man, and that the different pyramids

were built for the accommodation of the chiefs and ruling men of the clans which may have lived here. The whole structure was significant of the grades of society which probably existed among the people.

II. We now turn to the mounds formerly at St. Louis. These mounds were in some respects fully as interesting as those at Cahokia Creek. The peculiarities of the group were as follows: 1. They were arranged in a line along the second terrace parallel with the river and in full sight of the stream itself. 2. There was in the center of the line a group which was in the form of an amphitheater, the back part of the group forming a graceful curve, but the front part being flanked by a pyramid on one side and the falling gardens on the other. 3. Several of the mounds were terraced, the terraces all being on the east and

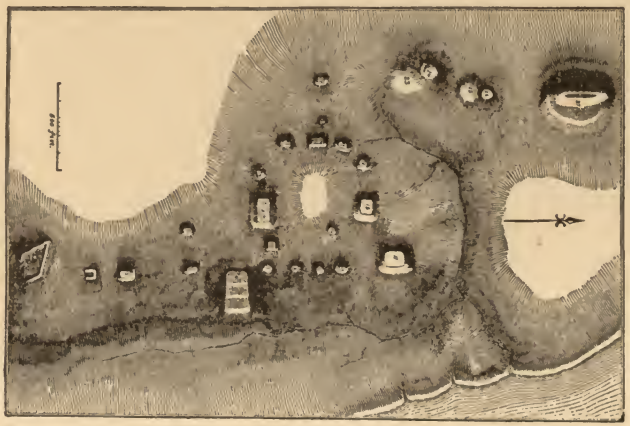


Fig. 3.—Map of Works at St. Louis.

so situated as to give a good view of the river. 4. The big mound, concerning which so much has been said, was located at the extreme north of the line. This seems to have been attended by a series of irregular pyramids, all of them of large size and on high ground, so making the entire series to resemble the great terraced villages of the west, the pyramids being arranged in banks or steps along the entire bluff.

The arrangement of the pyramids deserves attention. This seems to have varied according to the situation. Those in the vicinity of the Monk's mound extend nearly three miles in one direction and two in another, but the great mound occupies the center and overlooks the whole series. Cahokia Creek flows just north of the great mound and divides the group, several mounds being north of the creek. The group on the bank of the river near East St. Louis, according to the descriptions given of it by Brackenridge, was in the shape of a crescent,

which opened upon the river. This group was formerly situated where the business part of St. Louis now stands. It was arranged along the edge of the terrace for the space of about three quarters of a mile. In the center of the line was a group containing several pyramids, arranged about an open area, a pyramid at either side, the falling garden being situated at an angle of the area. The whole group was so arranged that a view of the river could be obtained from the summit of each pyramid. The group was in a sightly place, and commanded a view in all directions. See Fig. 3.

Brackenridge describes this group as follows: "It is situated on the second bank and disposed in a singular manner. They are nine in all, and form three sides of a parallelogram, the open side toward the country being protected by three smaller mounds placed in a circular manner. The space enclosed is about 300 yards in length and 200 in breadth. About 600 yards above this is a single mound, with a broad stage on the river side. It is 30 feet in height, 150 in length; the top is a mere ridge 5 or 6 feet wide. Below the first mound is a curious work called the 'falling garden.' Advantage is taken of the second bank, nearly 50 feet in height at this place, and three regular stages or steps are found. This work is much admired. It suggests the idea of a place of assembly for the purpose of counseling on public occasions." Mr. A. C. Conant says that the "big mound" which once stood at the corner of Mound street and Broadway is the terraced mound represented by Mr. Brackenridge as located 600 yards north of the main group. He says there were formerly many other mounds in the vicinity of St. Louis, rivalling in magnitude and interest those just described. The second terrace of the Mississippi, upon almost every landing point, was furnished with them. The "big mound" was destroyed in 1869. It was found to contain a sepulchral chamber, which was about 72 feet in length, 8 to 12 feet wide, and 8 to 10 feet in height; the walls sloping and plastered, as the marks of the plastering tool could be plainly seen. Twenty-four bodies were placed upon the floor of the vault, a few feet apart, with their feet toward the west, the bodies arranged in a line with the longest axis; a number of bone beads and shells, sea shells, drilled with small holes, near the head, in quantities "sufficient to cover each body from the thighs to the head."

We call attention to the arrangement of the terraces in this group. They seem to be directed toward the east or the river side, and commanded a view of the river and of the mounds upon the opposite side of the river.

Mr. Say says: "Tumuli and other remains are remarkably numerous about St. Louis. Those immediately northward of the town are twenty-seven in number, arranged nearly in a line from north to south. The common form is an oblong square,

and they all stand on the second bank of the river. It seems probable that these piles of earth were raised as cemeteries, or they may have supported altars for religious ceremonies. We can not conceive any useful purpose to which they could have been applicable in war, unless as elevated stations from which to observe the motions of an approaching enemy. Nothing like a ditch or an embankment is to be seen about any part of these works." This remark about the "elevated stations" is a suggestive one. It may be that the people assembled upon these terraces to observe the scene spread out before them, a scene which abounded with peaceable pursuits. The valley was covered with a teeming population, large canoes were passing to and fro upon the river, villages were scattered over the rich bottom land in every direction, the pyramids on which the chiefs had built their houses loomed up in the midst of the ordinary houses in the villages, the lofty towers or lookouts on the bluffs, surmounted by sentinels or watchmen, were covered with beacon fires by night or with smoking signals by day, while in the midst of the scene the great mound stood as a gigantic temple, with its terraces covered with the troops of superstitious people, who assembled there to protect the shrine on the summit. Above this the smoke from the sacred fires arose in a spiral into the face of the sun. It was a scene suggestive of busy life, but there was a strange superstition which pervaded everything, filling the air with its awe-inspiring effect, the sun being the great divinity worshiped by the entire people —its rising being met by adoration from morning to morning, and its course watched by those who regarded it as a divinity.

It will be remembered that the celebrated picture rocks which Marquette describes as having been seen by his party, of which the natives seemed to be in mortal fear, were situated not far from this spot. These pictures have given rise to many strange stories. It is said that they were in the shape of huge animals, with human faces, horns issuing from the head, wings surmounting the body, all parts of the animal kingdom being mingled into one hideous-looking creature. It is said also that there are caves in various localities, hidden away among the rocks. The bluffs surrounding the valley are strangely contorted. The lakes and ponds in the midst of the valley had formerly a wild, strange air about them. Agriculture was followed here, for agricultural tools have been taken from the ground in great numbers, but it was agriculture carried on in the midst of wild scenes. There must haue been a dense population, for it is said that the plow everywhere turns up bones in great numbers, and the sides of the bluffs are filled with graves, in which many prehistoric relics have been found. There is no place in the Mississippi Valley where so many evidences of the strange life and strange superstitions which prevailed in prehistoric times are found.

LIST OF MOUNDS FORMERLY ON THE SITE OF ST. LOUIS.

The following table, which was taken from the survey made by Long's expedition,* and which is probably correctly given, will show the dimensions and grouping of the pyramids, conical mounds and falling gardens. The big mound is the one farthest north in the group.

NO.	SHAPE.	DISTANCE.	Diam. Base.	TOP.	Height.	REMARKS.
1	"Spanish Bastion".	.....	.....	.....	.....	
2	Hollow Square.....	N. 259.	50	.....	5	
3	Oblong Square.....	N. 115.	114x50	80	4	
4	Oblong Square.....	N. 251.	84	45	4	
5	Oblong Square.....	W. 155.	81	35	4	
6	Falling Gardens...	1st T.	.....	87	19	
		2d T.	.....	51	30	
		3d T.	.....	30	34	Top 114x88, 5 ft. high
7	Conical.....	N. 95.	83	34	4½	above the bluff.
8	Conical.....	N. 94.	98	31	5	
9	Conical.....	N. 70.	114	56	16	
10	Conical.....	N. 74.	91	34	10	
11	Square on the slope	N. 158.	179	107	5	East side 20 ft. high.
12	Square.....	W. 30.	129	50	10	
13	Parallelogram.....	W. 30.	214x188	134x97	12	Distant from No. 5,
14	Convex.....	W. 55.	95	50	.....	250 feet.
15	Square.....	N. W. 117	70	.....	4	
16	Square.....	N. E. 103.	124	.....	.....	16, 17, 18 and 19 are
17	Square.....	N. 78.	82	.....	.....	on a curve.
18	Square.....	N. E 118.	77	.....	.....	
19	Quadrangular.....	E.N.E. 70	187	68	23	484 ft. N.N.W. of 13.
20	Round.....	.....	20	.....	2	
21	Round.....	.....	25	.....	.....	317 ft. W. of No. 16.
22	Quadrangular.....	W. 329.	73	.....	12	23, 24, 25 and 26 in a
26	Irregular	N. 246.	89	.....	12	line, 245 ft. N. of 22
27	"Big Mound".....	.....	319x158	136x90	34	N.N.W. of 19 1463 ft.
	Top 11 feet wide. Terrace 79 feet wide.					

*See Smithsonian Report, 1861, p. 387.

LIST OF LARGE MOUNDS NEAR EVANSVILLE, IND.

NO.	SHAPE.	Circumference Base,	Diameter of Top.	HEIGHT.
1	Truncated.....	585	100	15
2	Conical.....	150	.....	8
3	Truncated.....North.....	402	60	20
4	Altar.....120 feet.....	3x2	.....	14 inches.
5	Conical.....East.....	150	.....	4
6	Terraced.....East.....	1200	150x55	50
	Terrace.....	.....	185	45
	Additional Mound.....	.....	.....	15
7	Conical.....East.....	90	.....	10
	Bastion Wall.....	1 Mile.	.....	2½
8	Conical.....Half mile N. E.....	492	.....	50

The group of mounds is surrounded by the bastion wall. There are mound-like widenings on the outer edge, 120 feet apart. Graves walled with slate are numerous. One cist was 8 feet long, 4 feet long and 4 deep.—Dr. Floyd Stinson, Evansville, Ind., Smithsonian Report, 1881.

III. We take up the comparison between the pyramids. It will be noticed that there is a general resemblance, both in the shape of the individual pyramids and in the arrangement of the pyramids in the groups. Here at St. Louis one group has a great mound in the center with the other mounds around it; the other group has an open area in the center and the pyramids placed at the sides of the area, as if to guard it and make it a place of assembly.*

We first turn to the comparison of the northern mounds with the pyramidal mounds in the Southern States, and are to notice the resemblances. The number and location of these pyramids are at present somewhat uncertain, but they seem to have been distributed throughout the entire region covered by the Gulf States. They are numerous in Louisiana, Mississippi, Georgia and Alabama. A modified form of pyramid, not so large nor so well made, is found also among the stone graves of Middle Tennessee, as well as among the lodge circles of Arkansas. Truncated pyramids, or rather platform mounds, are common also throughout the southern part of Ohio, though they are not pyramids in any proper sense of the word. Still, if we take the shape as a standard, and consider the platform mounds having graded ways as one type of pyramid, we should find that the distribution of the pyramidal mounds was very extensive. There was formerly an elevated square or platform mound at Martin's Ferry, near Wheeling, and in connection with it a conical mound, the two reminding us of the rotunda and public square of the Cherokees. This is the easternmost point where such works have been seen. The westernmost limit of mounds of this pyramidal type cannot be determined, yet it seems that there are specimens of the kind at points on the Missouri as far north as Dakota and even farther. The pyramids found inside of the celebrated enclosure called Aztlan, in Wisconsin (see Fig. 4), have been compared to those which are common in Middle Tennessee, and the walls with bastions surrounding the enclosure have been compared to those at Savannah, Tennessee, and to those at Evansville, Ind., and it has even been suggested that this ancient city was built by a colony from the south. It is, at least, the northernmost point at which pyramids have been recognized, the so-called haystack mound in Dakota being considered a specimen. The pyramids at Atzalan are on high ground, near the bastioned wall, and overlook the entire enclosure. There is a graded way to one of them and an elevated causeway connecting it with the lodge circles on the flat below. The effigies are just below the bluff or natural terrace pyramids. On the bank of the river are two rows of lodge circles, with a level street between them. A low platform may be seen near the lodge circles and a pond near

*The group at Madison Parish, La., resembles those at St. Louis, the great mound at Seltzertown those at Prairie Jefferson, and those near Washington resemble these on Cahokia Creek.

the platform. There are ponds near all the platforms and pyramids, water seeming to have been an essential to the religious assembly places, as in all parts of the country. There are effigies within a mile of this enclosure, and it is supposed that the long irregular mounds inside of the enclosure were effigies.

These pyramids in the ancient city of Wisconsin are interesting because they show that the effigy-builders were also pyramid-builders and perhaps sun-worshipers. The assump-

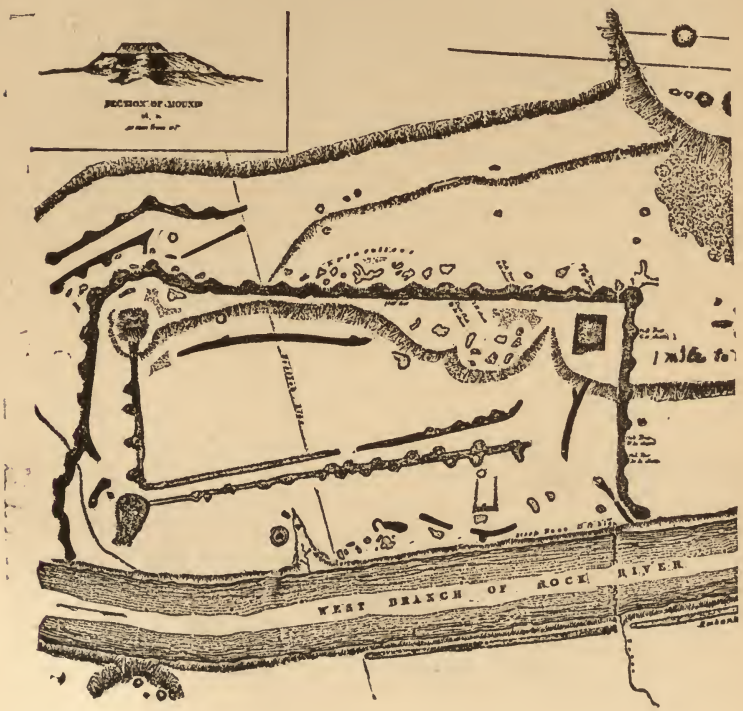


Fig. 1.—Pyramids and Effigies at Aztlan, Wisconsin.

tion has been that marks of architectural progression were observable in the distribution of the ancient works. Prof. J. T. Short says:

"Men all around the world have been pyramid-builders. The religious idea in man has always associated a place of sanctuary with the condition of elevation and separateness. The simple mound, so common in the northern region of the United States, represents the first step in providing a place of worship, the construction of an artificial hillock upon the summit of some bluff or hill. The next step would be the construction of some religious effigy representing animals sacred to the mound-

REESE LIBRARY
UNIVERSITY

builders. The enclosures with the truncated pyramids, which are found in Ohio, would be the third step. The highest artistic form is found in the truncated pyramid, with its complicated system of graded ways and its nice geometrical proportions." As a theory, this seems very plausible, but as a matter of fact pyramids are found among the effigies as well as enclosures. The superstition which required the erection of earthworks as the embodiment of their idea of sacredness is an element which is very poorly understood. Sun-worship and animal-worship may have existed together in Wisconsin, as serpent-worship and sun-worship did in Ohio. Fire-worship and serpent-worship seemed to prevail in certain parts of Illinois. The only district where sun-worship prevailed without any mixture of animal or serpeut worship was in the Southern States. Here it seems to have been mingled with idol-worship, the progress of thought being as perceptible in the works of art and archæological relics as in the earth-works, the pyramid and idol having been associated in these southern districts.

We base no theory on these facts, merely mention the localities where works of the pyramidal type have been discovered. To some minds they would prove a migration from the north or northwest to the south and southeast, and would show that the mound-builders gradually developed from the low stage of animal-worship up through serpent worship to the higher grade of sun-worship, the different types of earth-works marking the different stages through which they passed. To other minds, however, they would prove the spread of a secret order, or the wanderings of a class of priests or medicine men, who introduced their occult system into the different tribes, making the pyramid the foundation for the houses in which they celebrated their mysterious rites. Another explanation is that tribes migrated from the south to the north, and that as they migrated they took the various religious systems which prevailed among them in their former condition, but in other respects they yielded to the new surroundings and became wilder and ruder in their mode of life, the pyramid being about the only sign of their former state that is left. These are, however, merely conjectural theories. The home of the pyramid-builders as such was not in northern territory, for it is understood that the pyramids are mainly found in the Gulf States, and that in that region they were devoted to sun-worship, which is the cult to which the pyramids are sacred in all parts of the globe.

As to the use of the pyramids, it has been generally supposed that the pyramids were all built on the banks of streams or on low ground which was liable to be submerged. The object of building them was to make them a place of refuge or retreat in time of high water. Such may have have been the case with these works near Cahokia, on Cahokia Creek, and yet the pyra-

mids upon the west side of the river were upon high ground, on the third terrace, which is never reached by the water. The same contrast may be recognized in other places. Many of the pyramids on the Mississippi River are on low ground, and near the banks of the river, or near some bayou which is conected with the river. There are, however, certain pyramids remote from any stream, and situated on high land and in such positions as to preclude the idea that they were built for retreats. The Messier mound is a specimen of this kind. It is not one of a group,

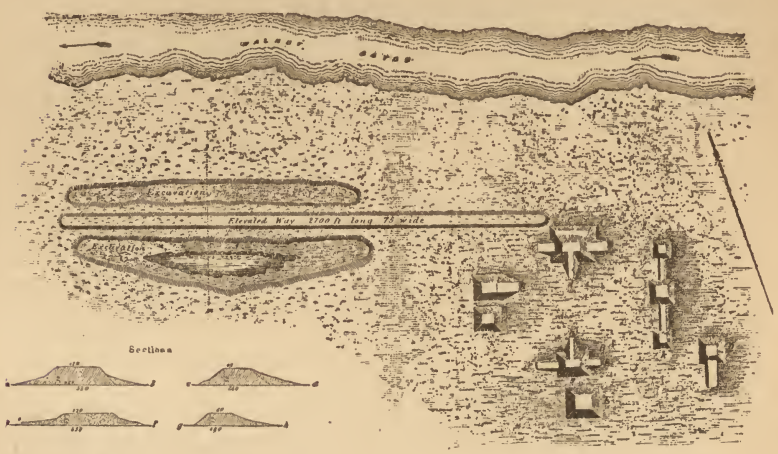


Fig. 5.—Works at Walnut Bayou.

but stands apart, prominent in its size, marked in its peculiarities and attended with a single conical mound. This pyramid reminds us of the truncated platform at Martin's Ferry, West Virginia, though that is in the region where squares and circles are the typical shape. The Etowah mound, in Georgia, is on low ground which is liable to be flooded, but there are pyramids on the left bank of the Ocmulgee River, opposite the City of Macon, which are situated upon the summit of a natural hill, and occupy a commanding position. This, we think, disposes of the idea that the pyramids were built only for refuges for the people in times of high water. They were evidently typical structures, which were erected under the power of some religious sentiments and were the results not only of the religious system but are significant of the tribal organization. The custom among these tribes was to place the houses of the chiefs and priests upon a higher level than those of the common people. There is a great contrast between the works of the northern districts

and those found in the southern or Gulf States in this particular. In the northern districts the hunters' life prevailed, and the people were on an equality with the chiefs and priests or medicine men. In the southern districts the people were agriculturists, but there existed among them a superior class—clan elders, chiefs, and priests or medicine men, having great power; but the people were contented with their exercise of power. This was the case among the tribes after the beginning of history. We call them all Indian, but a great difference existed between the Indians who were mere hunters of the forests in the north and those who were the agriculturists in the south.

Fig. 6.—Works at Prairie Jefferson.

It is said that the public square was the place where all strangers were received, but this was the square around which the ruling classes had their houses, the people placing their houses outside, so constituting a center in which the chiefs were supposed to have lived. Some of the tribes seemed to have occupied the old villages, but made the pyramids and other works useful. In such villages the ancient chunky yard was always at the center, the conical mound at one end, and the pyramidal mound at the other, the public square or residences of the chiefs being upon the truncated pyramid, the assembly place or religious house on the conical mound opposite. The Cherokees used these structures. They built lofty council houses, rotundas, on the conical mounds, making the walls twenty feet high, and then lifting a peaked roof above these, the height of the rotunda at times being at least sixty feet. In these buildings they kept up the sacred fire, which with its spiral flame and smoke was significant to them of the religion of their fathers. We can imagine how imposing these sacred houses were, especially when they were placed on the summit of these lofty truncated cones. The houses of the chiefs and clan elders seem to be equally sacred. They were difficult of approach, lofty stair-cases being built up the sides of the pyramids to them, and guards being placed on the terraces to defend them from sudden attack. We have a picture then of the pyramids as they were occupied by the southern tribes—a picture which is suggestive of their origin and purpose.

This picture is drawn from the descriptions given by the various writers, the historians of Fernando De Soto being the first, and various travelers, Bartram and the Indian agent Adair giving a later view of the works.

IV. We now take up the particular places in which pyramids are found, and shall describe their groupings and various peculiarities. The works at Madison Parish and Walnut Bayou, La, are first. Fig. 5. The group is situated seven miles from the Mississippi River; it consists of seven large and regular pyramids, and a graded or elevated roadway half a mile in length. The roadway is parallel with the bayou, but the mounds are twenty yards from it. The principal structure is 225 feet long, 165 broad, and 30 feet high; has a terrace on the side next the bayou which begins at ten feet above the surface, is ten feet wide, and extends the entire length of the mound. On the south side is a roadway 20 feet wide, which begins 60 feet from the base and leads with a regular grade to the top; at either end of the mound is an inclined platform 75 feet long, 60 feet wide, the lowest end raised only three feet from the surface. A similar mound, smaller in size, faces the pyramid, with a graded way and similar platforms. At the east side are three pyramids which are connected, the central one being 96 feet square, 10 feet high; two others 60 feet square, 8 feet high, the three being connected by a wall or terrace 40 feet wide, but only 4 feet high. One of these terraces is 75 feet long, the other 125 feet long. The graded way is 3 feet high, 75 feet wide, 2700 feet in length. There are excavations on either side 200 feet long, 50 feet high, 300 feet wide. The relative situation of these pyramids to one another would indicate that they were the abodes of the chiefs, that the public square was between them, and that the houses of the common people were situated on the level ground outside of the pyramids.

ANCIENT WORKS AT PRAIRIE JEFFERSON.

NO.	SHAPE.	SIZE OF BASE.	SIZE OF TOP.	HEIGHT.
A	Square Pyramid.....	180x135	51x45	48
B	Square Pyramid.....	.....	210x75	5
C	Square Pyramid.....	132x132	.....	4
D	Square Pyramid.....	.....	120x120	4
E	Square Pyramid.....	.....	16x42	10
	Embankment, E to F. 135 ft.	long, 15 feet	broad, 4 feet	high.
F	Square Pyramid.....	.....	60x78	12
G	Square Pyramid.....	.....	60x71	12
H	Square Pyramid.....	.....	60x74	7
I	Square Pyramid.....	.....	36x45	10

Roadway is 1050 feet long, 12 broad, 3 high. Pyramids E, F, H, I, have terraces and same relation to the central mound. Dirt for embankments was taken from ponds.

The works at Prairie Jeffereson resemble those at Madison Parish. See Fig. 6. The group consists of six mounds, which vary

from 4 to 48 feet in height, from 60 to 210 feet in length, 40 to 135 feet in width; all of them are regularly disposed with reference to the temple and the open campus between them. One mound, called the temple, has a level area on its summit, 51x45 feet in diameter. It is reached by a winding way. The mounds which face this temple on the west have great uniformity of figure, being steepest in the rear, but having terraces in front which incline toward the plain or open space. There is an artificial pond near these pyramids, having outlets controlled as the mound-builders desired, the earth probably having been taken

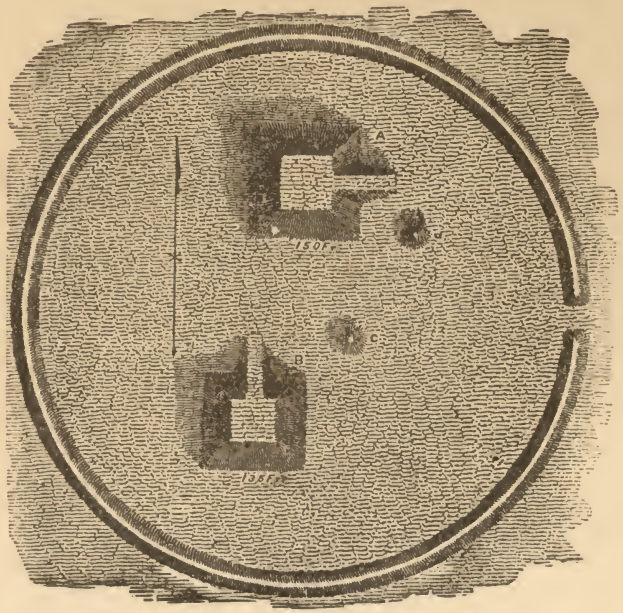


Fig. 7.—Works in Bolivar County, Mississippi.

from it for the purpose of building the mounds. One of these pyramids has been used as the site of a dwelling, reminding us of the structures situated near Cahokia.

The group in Bolivar County, Mississippi, comes next. Fig. 7. It consists of two truncated mounds, occupied by two small conical mounds, the whole surrounded by a circular wall 2300 feet in circumference and 4 feet high. The size of the pyramid is 175 feet square and 20 feet high. Another is 135 feet square and 15 feet high. The conical mounds are only thirty feet in diameter and 5 feet high. The pyramids are orientated. They do not vary from the points of the compass more than two degrees.

At the junction of the Ouachita, Acatahoola and Tensas Rivers

is a group in an enclosure containing about 200 acres of land, the embankment around it being about 10 feet high. Four of the mounds are of equal dimensions—100x300 feet at the base and 20 feet high. The fifth, which is 80 feet high, seems to have been designed for a tower. The base covers an acre of ground. It rises by two stages or terraces, and the summit is crowned by

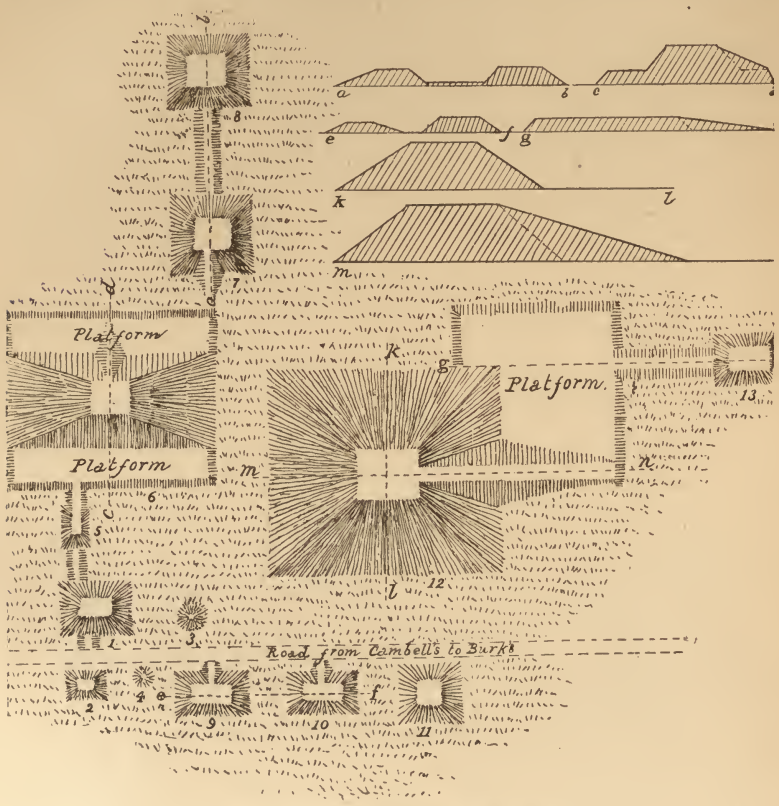


*Fig. 8.—Works at Seltzertown, Mississippi.**

a flattened cone. The summit is reached by a spiral pathway, winding with an easy ascent around the mound, which is broad enough to permit two horsemen to ride abreast.

The great mound at Seltzertown is next. See Fig. 8. It is near Washington, Mississippi, and consists of a truncated pyramid 600x400 feet at the base. It covers nearly six acres of ground; its sides correspond to the cardinal points; it is 40 feet high, is svrrounded by a ditch which averages 10 feet in depth; it

*Mound A, 180x135 feet at base, 51x45 at summit, 48 high; B, 200 feet at summit, 75 wide, 5 high; C, 132x132 feet, 4 high; D, 120x120 feet, 4 high; E, 60x42 feet, 10 high; F, 60x42 feet, 12 high; G, 60x51 feet, 12 high; H, 60x54 feet, 7 high; I, 36x45, 10 high.

is ascended by graded avenues; the area on the top embraces about 4 acres; there are two conical mounds on the summit, one at each end of the pyramid; the one at the west end is not far from 40 feet in height, is truncated, has an area of 30 feet in diameter. Eight other mounds are placed at various points, but they are comparatively small, being from 8 to 10 feet in height. This Seltzertown mound is more like the Cahokia mound than any other in the Mississippi Valley. It is not quite as large and is not surrounded by many earth-works, yet the two correspond in many particulars; These various pyramids which are scattered along the banks of the Mississippi River indicate a very numerous population. We have no doubt that they mark the sites of former villages. They are very similar in their shapes and surroundings, were undoubtedly built by people of similar tastes and modes of life. M. Fontaine says: "It is probable that the entire course of the river, from Cairo to a point fifty miles below New Orleans, is thickly studded with mounds. The whole region bordering the tributaries was densely populated by the same people." Mr. G. C. Forshey describes works, some of them of immense proportion, on the Mississippi River, and one at Trinity, in the Parish of Catahoula, Louisiana; the same writer observed a mound at Natchez 25 feet high. Prof. Short says: "These observations convince us that the State of Louisiana and the valleys of the Arkansas and Red Rivers are not only the most thickly populated wing of the mound-builders' domain, but also furnished remains which present affinities with the great works of Mexico so striking that no doubt can longer exist that the same people were the architect of both."

V. This subject of differences in population is an interesting one. We may take the different rivers which flow southward from the Appalachian range, and find that there are groups of pyramidal mounds scattered along the valley of each, characterizing river systems. There seems to be a difference between the works of the entire district, those on the Mississippi River and its immediate tributaries being very different from those on the Chatahoochee, Ochmulgee and Savannah Rivers.

We judge that there were two or three classes of pyramid-builders at the south. One class had their habitat on the Mississippi River. They erected their pyramids around an open area, connecting them with walls, the graded ways always being on the side of the area, the pyramids abrupt on the other side. The design of this arrangement was apparently to make the pyramids themselves a sort of defense. The pyramid-builders in Georgia and Alabama depended more upon surrounding the pyramids with walls and ditches and less upon the pyramids themselves for their security. They rarely placed the pyramids in lines, and there seems to have been no provision for an open area between the pyramids. The central pyramid was the

chief object .The various mounds and pyramids surrounding it were scattered promiscuously, without any special order, although we may recognize the associating of the pyramid, which the public square, with the rotunda as frequently here as in the western district.

We turn now to examine some of the groups found on the last named rivers. These have been made familiar to us by the works of Col. C. C. Jones and by the various reports which have been published by the Smithsonian Institute and the Ethnological Bureau. The most noted of these groups is the one at Cartersville, on the head waters of the Coosa River, some sixty miles south of Chatanooga, and about forty miles north of Atlanta. These mounds are situated in the midst of a beautiful and fertile valley. They occupy a central position and an area of some fifty acres, bounded on the east by the Etowah River and west by a large artificial canal. The moat varies in depth from 5 to 25 feet, and in width 20 to 85 feet. There are two reservoirs and an artificial pond near this moat. The enclosure is protected by the river and moat, but it has no earth walls. See Fig. 9. Within the enclosure are seven mounds, three of them of large size, one surpassing the others in proportions and in interest. This central tumulus consists wholly of the earth taken from the moat. Its form is pentagonal; its dimensions: length of the sides, 150, 160, 100, 90, 100 feet; diameter, 225 feet; height, 65 feet; summit nearly level. The approach to the top is from the east, but was accomplished through the inclined plane which leads from one terrace to another. The terraces are 65 feet in width and extend from the mound toward the southeast. There is a pathway on the eastern angle which Mr. Jones thinks was designed for the priesthood alone. East of the central mound, immediately adjoining it, stands a smaller mound, 35 feet high, nearly circular in form, which has an easy communication with the terraces of the larger pyramid. In a westerly

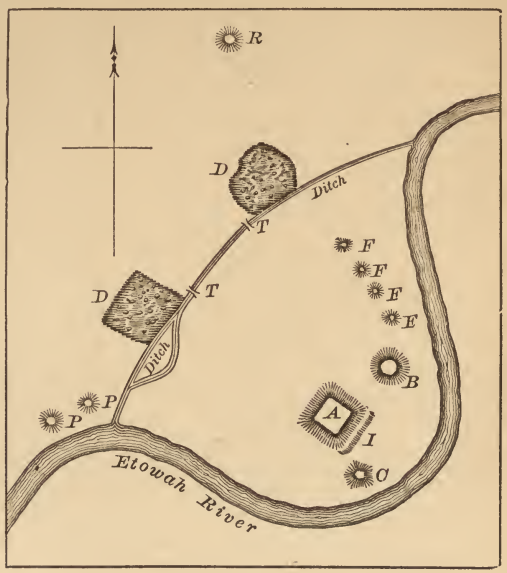


Fig. 9.—Etowah Mounds.

direction, 250 feet, is a third pyramid. It is pentagonal in form, with a diameter of 92x68 feet, and is 23 feet high. Within the enclosure is a chain of four sepulchral mounds. Outside of the enclosure are two other conical mounds, Dr. Thomas thinks that this mound was visited by De Soto, and that it was the place where the ambassadors of the noted cacique of Cutifachiqui delivered their message to him. Dr. Thomas gives a cut of this mound, and says the broad way winding up the side answers to the description given by Garcilasso, the historian of the expedition, better than any other in Georgia. The smallest of the three largest mounds of the group was opened by one of the assistants of the Bureau and was found to be stratified—three horizontal layers, the lowest of loose loam, next of hard clay, the uppermost of sand and surface soil. There were stone cists in the loam, and in the cists many interesting relics, a description of which is given at length. The most interesting relics are the copper plates, which represent human figures with wings issuing from their shoulders. It is unusual to find winged figures in the mounds, yet enough of them have been found to establish the point that they were of aboriginal and prehistoric origin, and can not be taken as an evidence of the modern date of these stone cists. Another peculiarity of these figures is that they have very peculiar head-dresses—head-dresses which show the use of the so-called banner stones, as in two of them the head-dress is surmounted by one of these double-bladed axes or maces. These figures have in their ornamentation and other peculiarities Mexican or Aztec semblances, the same barbaric splendor being manifested in both. Dr. Thomas argues for the modern origin of these relics, and seems to think that the stone graves at the bottom of this pyramid must have been built by the Shawnees, a northern tribe, which at a late date happened to wander through this valley. The probabilities are in the other direction. The pyramid-builders were not wild Indians, like the Shawnees, but were a sedentary people more like the Muskogees, and yet they may have been older or earlier than the Muskogees and of the same stock with the Mayas or Nahuas of the central province.

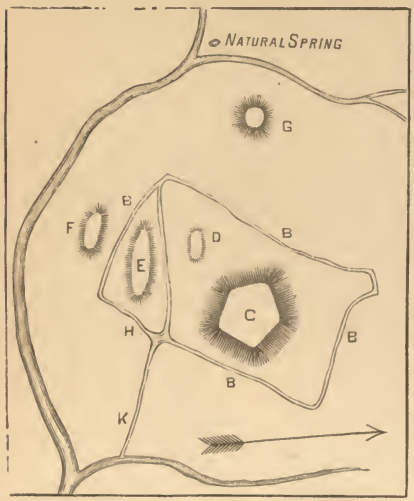


Fig. 10.—Pyramids on Shoulder Bone Creek.

Col. Jones speaks of the stone idols, measuring fifteen inches in height, and numerous terra cotta images of birds and animals found inside these enclosures; also of stone plates and large shell ornaments. He says these relics were not common among the Cherokees, which confirms the impression that they were the results of the labor of the modern Indians. The great age of the structures is shown by the trees which formerly grew on them and by the abandoned condition of the group. Traces have been found of hearths or altars upon the central mound, giving evidence of the presence of fire and perhaps of sacrifice. The broad terraces and the adjoining pyramids would afford space for the assembling of the worshipers at the appointed hour, when upon the elevated eastern summit the officiating priest caught the earliest rays of the rising sun as it lifted its face from off the shadows of the distant hills and smiled upon this beautiful valley. The terraces lie toward the east, and everything about the tumulus proves that it was erected for religious purposes and was consecrated to the great divinity of the sun. It is probable that the canals were used as fish preserves, as the fishes could be introduced from the rivers into the reservoirs and there propagated. Everything about the locality shows that it was a village of the Mound-builders.

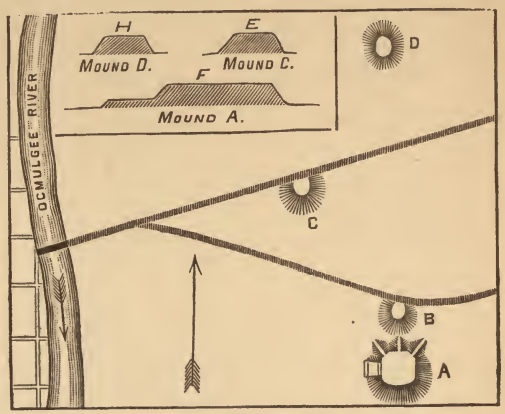


Fig. 11.—Pyramid on Ocmulgee Creek.

Next come the pyramids of Little Shoulder Bone Creek, in Hancock County, Georgia. See Fig. 10. This was also on the banks of a stream, and was surrounded by moats and excavations. The total area is but four or five acres. There is but a single pyramid in the enclosure. It is a truncated pentagonal mound, measuring 180x184 feet at the base, 80x88 feet at the summit, 40 feet high. The approach was from the east, but the summit was perfectly level. A truncated cone, measuring 140 feet at the base and 52x42 at the summit, 16 feet high, is near. This may have been the rotunda, though it is 150 yards distant from the pyramid. Within the enclosure, stone idols, clay images, with human shapes and others imitative of beasts and birds, similar to those in the valley of the Etowah, have been found. Every indication suggests that the locality was for a long period of time densely populated.

The pyramid on the Savannah River is next to described. This pyramid is situated twelve to fifteen miles below the City of Augusta. It is also surrounded by a moat. There are two mounds in the enclosure; the largest measures 58 feet in diameter at the summit, 185 feet at the base; it 37 feet above the plain and 47 above the water level. The western flank of the mound extends for a distance of 20 yards. Beneath the surface is a layer of charboal, bones, shells, ashes and baked earth 12 inches thick, showing a long-seated encampment. There was, 125 feet east of this, a smaller mound, having a bsse diameter of 114 feet, 15 feet above the surface of the ground. Terra cotta vases, pots, arrows, spear-heads, mortar pipes, bone and shell beads are found in the adiacent field.

Next comes the mounds on the Ocmulgee, opposite the City of Macon. See Fig. 11. These are located on the summit of a hill. The earth was takeu from a valley and conveyed to the top of the hill. There are four mounds in the group. One of them is a pyramid with three spurs or elevated approaches, and an artificial plateau or platform 8 feet high, 72 feet long and 93 feet wide. The summit diameters of this are 180 and 200 feet, its elevation 45 or 50 feet. It is not improbable that this was the central mound. There is a companion mound or cone 100 feet north. It is 10 feet high, elliptical in shape, 128 feet in length. A third mound is distant 300 or 400 yards northwest, and a fourth 400 yards northeast. An interesting fact is that this mound was excavated while the track of the Central railway was being made. At a depth of three feet several skulls were exhumed, and associated with them were stone implements, Venetian beads, copper hawk bells. At the bottom of the mound a skull was found which was distorted and flattened, and differed in every respect from the first skull. Who these flat-head mound-builders were is a matter of conjecture. The Creeks did not claim that these tumuli were erected by them. They declare that they were here when their ancestors possessed themselves of the region.

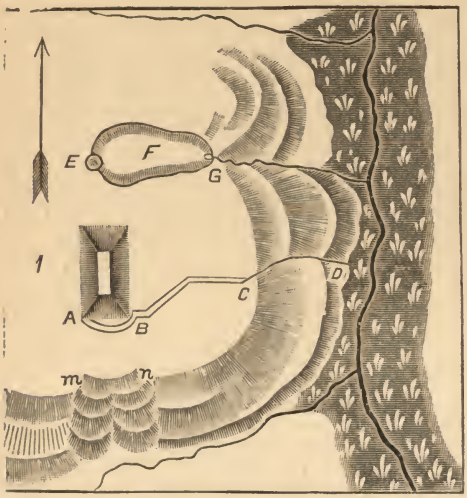


Fig. 12.—The Messier Mound.

The Messier mound is next. See Fig. 12. This is a four-

sided pyramid, 324 feet long, 188 feet wide, 57 feet high; the summit is 156 feet long and 66 feet wide. It is situated upon the summit of a hill. It stands apart, prominent in its size, and commands an extensive view. There are other smaller mounds near by. It is a large mound, and contains about 75,000 cubic yards of earth, which would weigh from 90,000 to 100,000 tons. There is a ditch and moat near by, which probably furnished the earth. Its area is about two acres; average depth, 25 feet. At one point an immense circular well, 60 feet in diameter, and

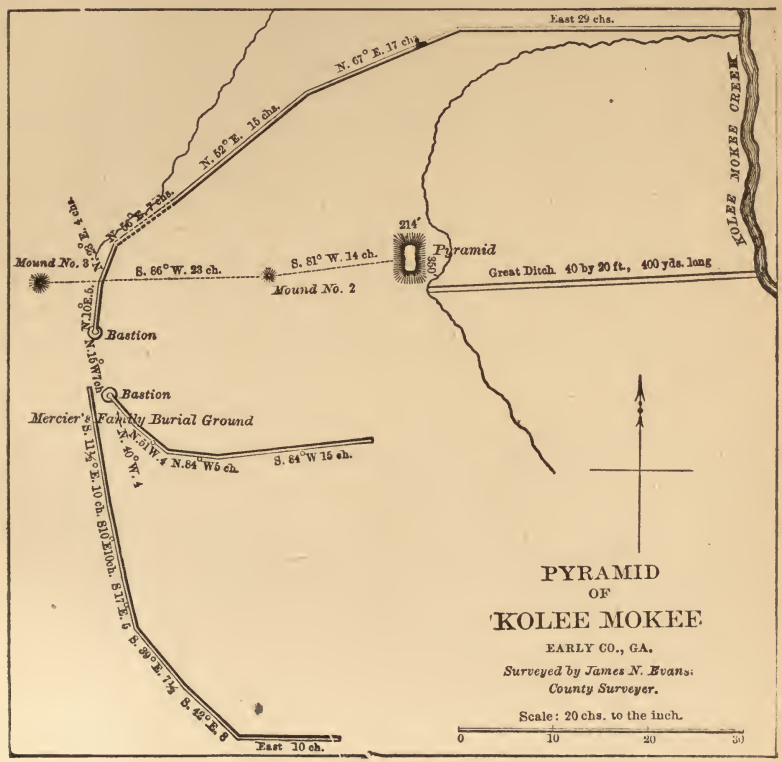
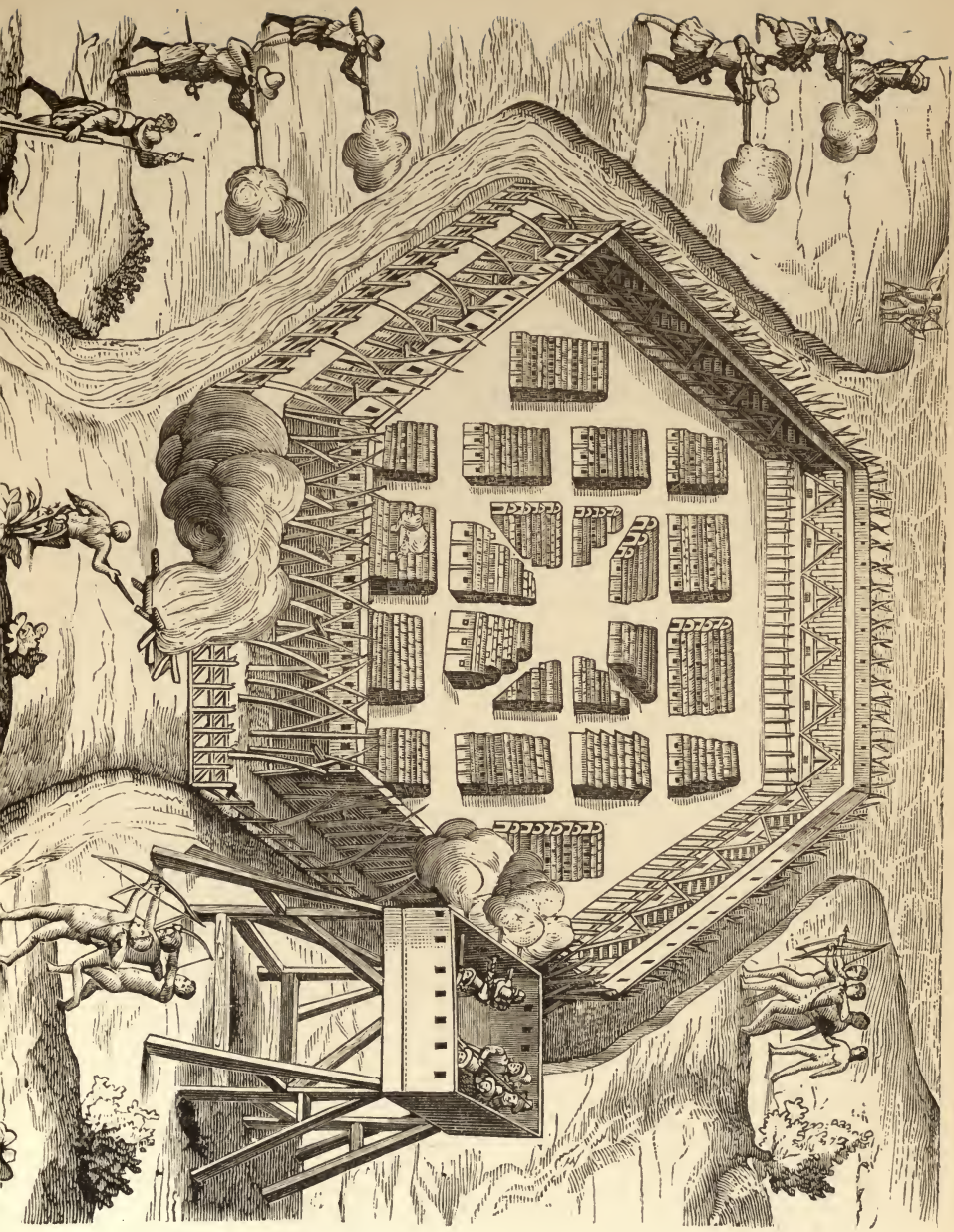


Fig. 13.—Walled Enclosure.

40 feet deep, can be seen. There formerly existed in the vicinity lines of earth-works a mile in length. Mr. Jones says: "The Messier mound was erected not for defensive purposes, but as a temple. In the religious festivals of primitive people ablutions serve an important part, and the convenient presence of water was deemed essential."

We might speak of other pyramids. One at Bobone, 9 feet high and 70 feet in diameter, stands on the inland tide marsh near the sea coast. The second is on the Kolee Mokee Creek, in Early County. See Fig. 13. The pyramid occupies the cente

of a fortified enclosure, around which there are extensive earthworks or walls, with a prominent gateway and bastions at the gateway. The pyramid is 350 feet by 215 feet at the base, 181 feet by 82 at the summit, and is 95 feet high. There is a pit at the south end of the pyramid, from which the earth was taken. A companion mound to this was 24 feet high, 72 feet in diameter. A ditch leads from the mound to the creek, 20 feet wide and 400 yards long. The walls surrounding the enclosure are at present about 30 feet wide. They are very low, not over 18 inches in height, and probably mark the site of an old stockade. There is a double line of walls on the south or southwest. On Dry Creek, in the same county, is a burial place, where in an area of fifty-one acres, eighty-three mounds are situated. They vary in height from a few inches to 10 feet, in diameter from 15 to 30 feet. This pyramid inside a walled enclosure is a rare instance, for the majority of them are only protected by the moats or ditches. There are, however, fortifications in the state, but they are generally found upon the mountains. One is situated upon Stone mountain. Near the summit it has a gateway protected by a large overhanging rock, the fortification being very strong in its natural defenses. Another is on the Yond mountain, which is a cone 4,000 feet high. Itis also walled with stone. Mr. M. F. Stevenson says: "All defensible mountains in this country were fortified. Neither the Cherokees, Creeks nor Seminoles had any tradition of the extinct race. The names of localities where mounds are found in this State are somewhat significant, A cemetery is found at 'Druid Grove;' two are on the 'Black Beard River;' the big mound is on Bourbon Creek; the eighty-three mounds are on the Dry Creek, in the 'Sacred Grove'."



REESE LIBRARY
UNIVERSITY
CALIFORNIA.

METHOD OF SIGNALLING AMONG THE WESTERN INDIANS.

CHAPTER XI.

DEFENSIVE WORKS OF THE MOUND-BUILDERS.

One of the chief things impressed upon us by the study of the Mound-builders' works is the peculiar method of defense which prevailed among them. This method was, to be sure, one which they held in common with all other prehistoric races, but it was in strong contrast with all that have ever existed in historic times.

We may imagine that their fortifications are like those of modern times, but when we come to consider them more closely we find them entirely different. A few words in reference to these differences will be in place here.

1. The people to be defended.—The picture before us is not that of a nation occupying a continent, nor of a people filling a State, nor a community occupying a township, but it is of a tribe occuping a river valley, or of a clan occupying a limited district. The clan was the unit of society. Each clan had its own burial place, its own place of religious assembly, its own chief, and we may suppose also its own stronghold. The method of defense was for the clans to gather and make common cause, the tribe itself being only a combination of clans.

2. The class chosen to be defenders.—The Mound-builders never attained to the modern method of employing a distinct military class for defense. There were no different classes among them, and scarcely any division of labor. All followed the same general mode of life, were either fishermen, or hunters, or agriculturists, the means of subsistence being common to all, and the responsibility of defense being shared by all. This condition of things secured safety to the people. They all were organized into clans, but the organization was such that every young man, when he was initiated into the clan, became a warrior. They became a race of warriors by this means. The obligation to defend the clan was made a condition of membership. It has placed this duty before that of securing subsistence. The government was based on this system. There was a village government as well as a tribal one, each village having its own chief and its own council house.

3. The extent of territory defended.—The Mound-builders occupied the Mississippi Valley, and their defenses are scattered over the whole region, every part of it giving evidence not only

of an extensive signal system, but of fortifications as well. Still, so far as can be ascertained, the system of defense which, while it embraced this entire valley, was one which was divided and adapted to limited districts. There are, to be sure, evidences that confederacies existed among the Mound-builders. Where these prevailed the system of defense extended over comparatively large districts, districts which, in some cases, cover the half of a modern State. As a general thing the territory was more limited than this. It was the tribal territory that was defended. The village was, to be sure, the clan abode, and this must be defended first, but the clans were organized into tribes, and so the system of defense embraced the habitat of the tribe.

4. The means of defense are in contrast. These differ even in historic times. In modern days the forts are the main source of protection. The entire people are defended by the forts. The mediæval method was to make the walled towns the chief source of protection, the castle being the dwelling place of the feudal despot. The ancient method was to surround the cities with walls and to make the citadels the chief source of protection. The prehistoric method was to make the village the permanent residence, depending on the clan organization as the main source of protecttion. The clan dwelt in the villages, and sometimes protected these with walls and sometimes left them without walls. Their chief defense seem sto have been in the forts. Were they clan forts or tribal forts? The probability is that they were the latter. They were placed in the midst of the villages for the protection of the clan as well as the tribe.

5. The location is to be considered. We have divided the Mound-builders' territory into different districts. The method of defense varied according to the location. In the northern regions the wilder and more uncivilized races dwelt. These erected stockades resembling Cæsar's Forts, built in the forests of Gaul. In the central regions were the agriculturists. These lived in walled villages resembling those of mediæval times, their fortifications resembling castles. In the southern districts we find the system of pyramids, which resembled those of the ancient people of the East, especially the Assyrian and Chaldean. On these pyramids the chiefs had their residence, and found protection in their height. The Mound-builders' defenses embraced a great variety, if we take the different districts into account, and yet there was a resemblance between them.

6. The stage of progress prevalent among the Mound-builders is another element of difference. We may draw a parallel between the historic and prehistoric ages, locating the different grades in different belts of latitude, recognizing the stages of progress as we cross these belts. The defensive system is, however, very different. This system depended largely upon the condition of the people. There was never any such protection as that given

by the ancient cities. We must judge the two periods by different standards.

7. The religious system is perhaps the chief element of contrast. We shall find that religion was a prominent factor in the defenses of the Mound-builders, superstition being as powerful among them as among the modern savages. We can not omit the element of religion from prehistortc races.

With these few remarks we now proceed to the study of the different methods of defense among the Mound-builders.

I. The first method to which we shall call attention is that which appears in the extensive signal and observatory stations. We have already called attention to this system in the chapter on burial mounds. We will now consider it more especially in connection with village life. The fact is that a system of signals by which the villages could communicate with one another, and through which the people could be aroused to the sense of danger, everywhere existed. The extent of this signal system was, of course, dependent upon the extent of the tribe or confederacy. In some cases the system would be limited to the valley of a single river, or perhaps to a portion of the valley. In other cases it would extend across the country from one river to another, In a few cases the signal system extended even beyond these limits, and may be supposed to have reached out till it covered the whole country with a network of beacons and signals. The defense which this system gave to the Mound-builders can not be over estimated. The people may have dwelt in villages. Many of the villages were situated upon low ground, but the signal stations were so placed upon the high points surrounding them that there was a constant outlook, and the protection covered a large region of country.

1. We notice that this system was common among all the tribes of Indians. We have the testimony of explorers that it was very common in the far west. We present a few cuts which are taken from the reports of the Ethnological Bureau, and would refer to the remarks of Col. Garrett Mallery, Dr. W. J. Hoffman, W. H. Holmes and others. It appears that one method of signalling a village was to place a horseman on an eminence so that he could be seen in all directions. The horseman had a way of riding in a circle, and the sign was easily understood. The plate illustrates this, for here the horseman is on the hill and the village is in the valley, and the attacking party approaching from a distance. See Plate I. Another method is to build fires upon prominent points, so that the smoke could be seen by day or the flame by night, and the warning be given in this way. This is illustrated by Plate II. This particular cut shows the signal which was given to convey tidings of victory, but similar signals were given also as warnings. The natives have a method of signaling by fire, which is peculiar to themselves.

The Dakotas, for instance, mix their combustibles so as to cause different shades of smoke; using dried grass for the lightest, and pine leaves for the darkest, and a mixture for intermediate shades. These with their manner of covering a fire with their blankets, so as to cause puffs of smoke, or of leaving the smoke to rise in unbroken columns, gave to them a variety of signals. Sometimes a bunch of grass was tied to an arrow and lighted, and shot into the air. The tribes of the southwest signal by this means. The Aztecs signaled to each other by fire during the siege of the City of Mexico.

Fig. 1.—Hill Mound near Chillicothe.

There are many signals among the tribes which are used in case of victory, and others for hunting purposes, and still others for purposes of recognition, but those for defense are the most important. We give a cut illustrating the method by which the natives now make signs to one another for the purpose of recognition (see Plate III).* The same custom of stationing sentinels on prominent points as lookout stations, has been long prevalent. Circles of stones are often found upon elevated points of land, where a good view of the surrounding country can be obtained. These circles are common on the Upper Missouri, among the Dakotas in Arizona, among the Hualpai, among the Pah Utes of Nevada, in the Sho-Shonee country, in Wyoming, and in many other places of the far west. Frequently the ground

*These Plates are reproduced from *The American Antiquarian*, Vol. V, No. 3.

around these watch stations is literally covered with flint chippings, as it was the custom of the sentinels to spend their time in making bows and arrows while watching.

This signal system still prevails. It is more prevalent in an open country like the plateau of the west, and yet it probably prevailed in ancient times, in the region east of the mountains. Traces of it are seen among the Mound-builders.

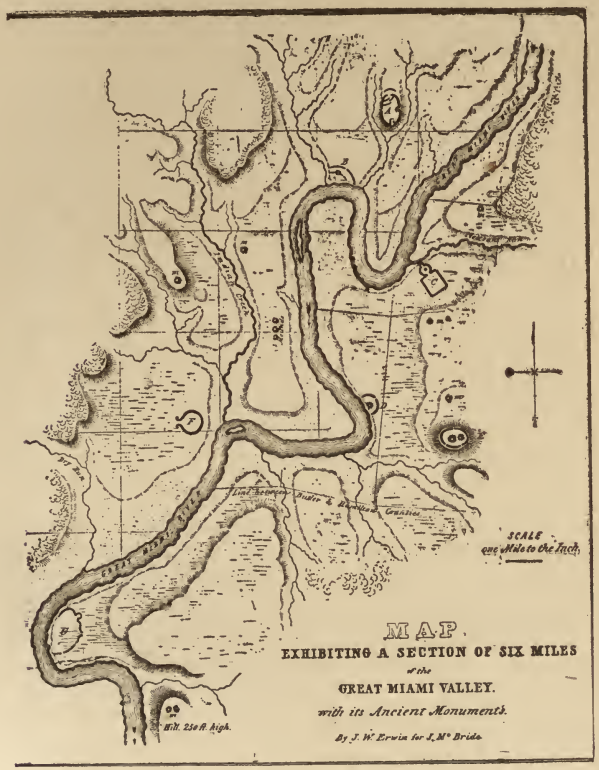


Fig. 2.—Map of Forts on the Miami.

2. The combination of signal mounds or observatories with beacons was a common method of defense. Some of these are accompanied with vast quantities of ashes, showing that beacon fires were long kept burning. In one case the ashes were thrown over a steep embankment, and yet were, when discovered, many feet in depth. Many of the burial mounds were used as watch stations or beacons, and it may be that a double protection was given by them. These observatories or beacon mounds are sometimes placed on very high points,† and thus they command the view of other points at a great distance. This idea is given by Dr. Lapham, in connection with Lapham's Peak, a high knoll

†See map of Scioto Valley, also of Miami Valley and of works at Marietta.

in Washington County, which commands a very extensive prospect for miles in every direction. Dr. J. W. Phene in his visit to this country recognized the same in connection with the great serpent mound in Adams County, Ohio. He states that this work is located on an eminence, from which a view can be had of Lookout mountain, in Highland County, twelve miles away. The same has been observed by the author in connection with the works at Circleville. The great mound at Circleville was sixty feet high, and commanded a view of Lookout mountain, twelve miles to the south of it. On this mountain an observatory was located which commanded a view of the works at Hopeton, situated just below, and the works at Chillicothe, several miles to the south of it. It is maintained by E. G. Squier, that such a series of lofty observatories extend across the whole States of Ohio, of Indiana and Illinois, the Grave Creek mound on the east, the great mound at Vincennes on the west, and the works in Ohio filling up the line. Other persons who have made a study of the works along the Ohio River maintain that there is a series of signal stations running up the branches of the rivers, such as the Scioto, the Great and Little Miami, the Wabash, and other rivers, and that all the prominent works through Ohio and Indiana are connected by a line of observatories, This net-work of signal stations is interesting if studied in connection with the village enclosures; as there are many scattered throughout this whole region.

Here we call attention to the explorations of the Rev. J. T. McLean, who has described the location of the large mounds on the Miami River. He has shown that they were connected with one another and with the forts and villages on that river. See Fig. 2. The author has followed up the subject and has found that a line of signal stations extends from Fort Ancient, on the Little Miami, to the great mound at Miamisburg, on the Big Miami. The latter mound was raised to the height of sixty-five feet, so as to give a chance to signal over a range of hills situated just west of it. The great mounds at Grave Creek, at Marietta, at Chillicothe and elsewhere were placed on prominent points that they might serve as signal stations.

Dr. J C. Proudfit has traced the signal system along the Missouri River and has shown that it is very extensive. Hon. C. C. Jones has traced them through Georgia, in the Southern States. Gen. G. P. Thruston has traced them through Tennessee and the Cumberland Valley. Dr. J. H. Baxter has traced them on both sides of the Ohio River from Cincinnati to Louisville. We may suppose that the system extended over the entire Mound-builders' territory. It is probable that nearly all the large mounds were lookouts, and were essential factors in the military system of the Mound-builders. The distinguishing points of the system are as follows:

3. A signal station designed for defense is generally a mound located on a prominent point, in close proximity to some village, and is so connected with other observatories that signals can easily be exchanged. The signal stations on the hills commanded other stations at a great distance, so that no enemy could come within miles of the spot without being seen. Such a system of outlooks may be seen surrounding the ancient capital at Newark, which was singularly situated in the midst of a natural amphitheater, while the observatories were located on the hills surrounding. It has been stated also that observatory mounds are located on all the hills in this region, forming lines between this center and other prominent though distant points. A line has been partially traced from Mt. Vernon to Newark, the large mound in the cemetery at Mt. Vernon being one of the series.

On a hill opposite Chillicothe, nearly 600 feet in height, the loftiest in the entire region, one of these signal mounds is placed. A fire built upon this would be distinctly visible for fifteen or twenty miles up, and an equal distance down, the valley of the Scioto, including in its range the Circleville works, twenty miles distant, as also for a long way up the broad valleys of the two Paint Creeks, both of which abound in the remains of ancient villages. In the map of the Miami valley a similar position observed, and similar mounds occur along the Wabash, the Illinois, and the upper Mississippi, showing how extensive this signal system was, at the same time showing how intimately it was connected with the villages. The author has also, during the preparation of this paper, discovered sites of ancient villages near the lofty eminence called the Platte mounds, in Wisconsin, and the conviction has grown with the study of the works in all sections of the country that the signal system was closely connected with all the prominent points, and that villages were frequently located near these points for the very purpose of securing the defense offered by this system.

4. The large conical mounds were used as signal stations. It took a long time to finish one of these conical mounds. The beacons or funeral fires may have been kept burning, and so defense of the living as well as burial of the dead was accomplished by them. The fact that conical mounds were so often placed upon high points and commanded extensive views would indicate that the interchange of signals was very extensive. We have given elsewhere cuts of the large conical mounds at Grave Creek,* Marietta, Miamisburg and Vincennes. These were located near ancient villages and were connected with many other works. The mound at Vincennes is only one of a group which surrounds the city, and is said to mark the site of an ancient capital. These

*This point can be seen in the cuts illustrating the articles on "Sacred Enclosures" and "Migrations". These cuts show how the signal stations and the forts are connected with the villages.

are, however, only a few of the many localities. In fact there is scarcely a bluff along the whole course of the Mississippi River where some such beacon mound is not found. The same is true on the Missouri, the Ohio, the Cumberland, the Tennessee, and other tributaries. It is the commonest thing for explorers to find burial mounds which were used as lookout stations. It is always interesting to notice how skillfully these spots are chosen and how extensive the views are from them.

5. Beacon fires were frequently lighted on the walls of the defensive enclosures, and many elevated points within village enclosures were used for the purpose of signaling distant places, so that we cannot confine the signal system to mounds or isolated stations, though as a general rule the signal system was outside and supplementary to the village enclosure. For illustrations of this see Plate representing the hill fort.

We would refer here to the fact that in the ancient fortification at Bourneville, O., there was a rocky summit which overlooked a great valley below, on which traces of beacon fires have been discovered, and that upon the walls of the enclosure at Fort Ancient traces of fire have also been discovered.

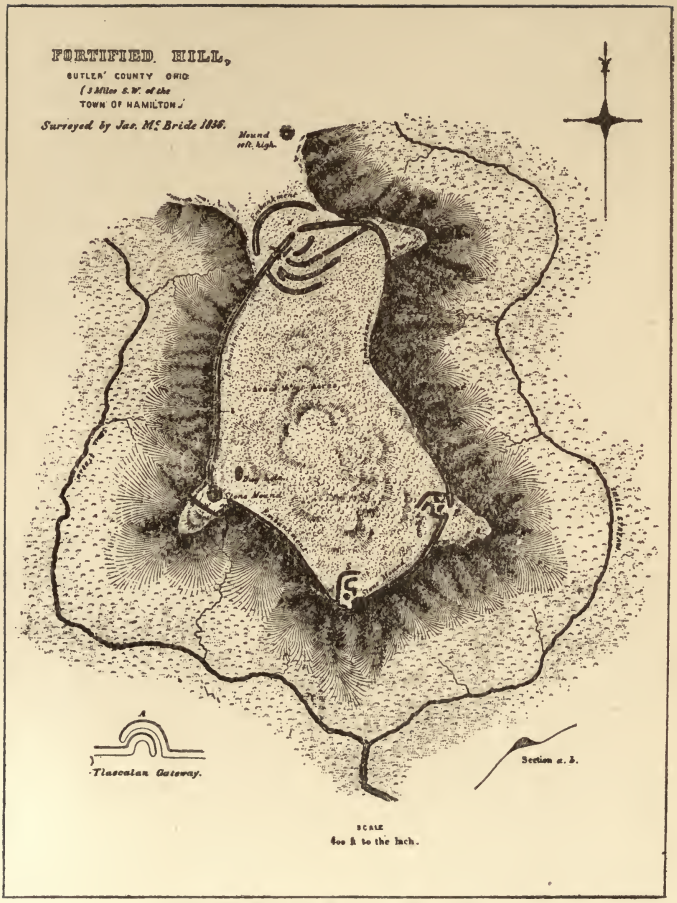
On the other hand there are many villages where the location of some lofty point near by would give great opportunity for exchanging signals either by fire or smoke for great distances. Many such points are seen in different parts of the country.

Messrs. Squier and Davis mention the fact that between Chillicothe and Columbus, in Ohio, not far from twenty of these points can be selected, the stations so placed in reference to each other that it is believed that signals of fire might be transmitted in a few minutes.

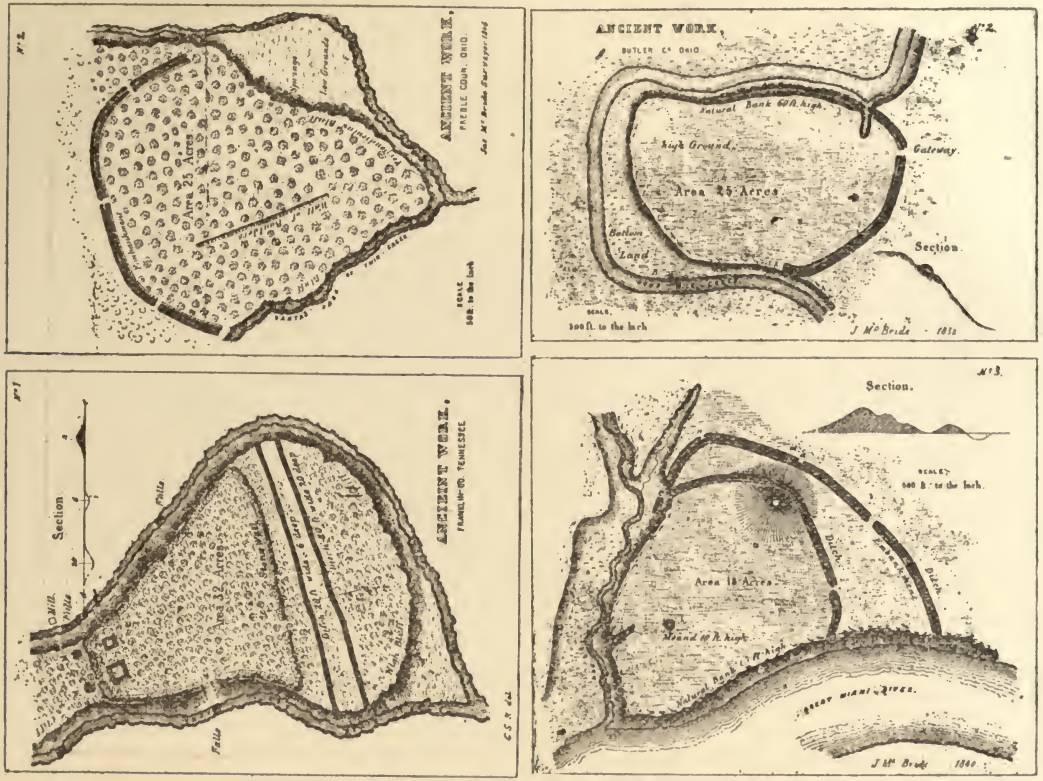
II. We now turn to the second method of defense. This consisted in the erection of stockade forts. It may be said that this was the common method of the wilder tribes and was peculiar to the northern class of Mound-builders. There were three varieties of stockades:

1. Those located on high ground, and which were naturally defended and needed only a double wall across the tongue of land to protect this. This is the simplest kind of a fort. Many of them have been seen and fully described in the northern part of Ohio.* Col. C Whittelsey has described some of these. They are situated at Conneaut, at Ashtabula, at Painesville, at Cleveland, and various places on the Cuyahoga River, near Sandusky, on the Sandusky River, and at many points along the valleys of these different streams which run into Lake Erie. We call attention to these works, as they illustrate the number and

*See Tract No. 41, Western Reserve and Northern Ohio Historical Society, Ancient Earthworks. See also, Ancient Earth-Forts of the Cuyahoga valley, Ohio, Cleveland: 1871. See History of Ashland county by Dr. A. H. Hill. See work on Mound-builders by Rev. I. T. McLean, and Aboriginal Monuments of Western New York, by E. G Squier.



FORTIFIED HILL IN OHIO.



DEFENSIVE WORKS NEAR WATER COURSES.

situation of the works of the late Indians, and also show the difference between their works and those of the Mound-builders. It would seem that a perfect network of these defenses was spread over the northern part of the State. We give a cut of the fort at Newburgh, Ohio. See Fig. 3. This illustrates the style of fort. There are many such forts in Northern Ohio.

It will be seen from these that the defense consisted mainly in the location. The walls were erected merely to supplement the natural defense which the rocky precipices and the isolated points of land would furnish. But with these inclosures there was also the combination of the outlook. Dr. Hill, of Ashland, O., has given this idea in his description of his works which are situated in Ashland county. He says, that here the forts are within sight of one another through the whole length of the river, those prominent parts, or tongues of land, which would give distant views having been chosen for the erection of forts. It should be said that this part of Ohio abounds with prominent bluffs, whose precipitous heights furnish excellent defense. The Huron Shale is here worn down by the action of water, leaving terraces projecting out in scalloped form and which make a series of level platforms, while the circuitious valleys below make an open territory between them, and thus fortifications could be easily erected, and a complete system of signal stations be established along the river.

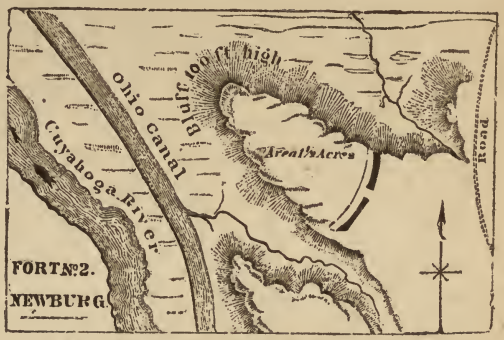


Fig. 3.—Stockade Fort in Northern Ohio.

2. Another type of stockade is common in the State of New York. It is also found in the northern part of Ohio, the fortification at Conneaut being a good specimen. Here there are remains of stockades, the stockades having been placed on the summits of the hills where an extensive outlook could be had. These stockades may have so been connected that a complete system of signals could be conducted across the country, and natives defend one another by the combination of the outlook with the enclosure. These ancient stockades have been described by E. G. Squier, but the connection between them has not been traced.

It is a fact, however, that this State was the seat of a great confederacy, that of the Iroquois, and this renders it probable that these prehistoric forts were connected by a signal system. It is known that the Iroquois had a complete military organiza-

tion; their central capital was at Onondaga, but there were trails running from this point throughout the whole State, and the villages were connected by the trails. It is known also that the Iroquois had stockades, and that they defended themselves against the whites by these fortifications. Some of the sites of the Iroquois forts have been identified. The boundaries of the different tribes are also known. Under such an organization the signal system would come into use, and we can imagine how completely the State was protected by the combined watchfulness of the people with the defenses offered by these stockade forts.

There are descriptions of the defenses of the Iroquois which enable us to understand the military architecture of the prehistoric races. We give a cut taken from the Documentary History of New York, which illustrates the subject. It is a picture of a village of the Onondagas, attacked by Champlain in 1615. See Plate IV. "The village was enclosed by strong quadruple palisades of large timber, thirty feet high, interlocked the one with the other, with an interval of not more than a half of a foot between them, with galleries in the form of parapets, defended with double pieces of timber, proof against our arquebuses, and on one side they had a pond with a never-failing supply of water from which proceeds a number of gutters, which they had laid along the intermediate space, throwing the water without and rendering it effectual inside for the purpose of extinguishing fire."

The picture illustrates several points. (1) The villages were frequently surrounded by stockades, the houses within the enclosure being arranged in blocks. (2) The location of the enclosure was convenient to water, and attended with natural defenses. There is no evidence of the signal system in this case, and the use of water in the manner described is uncommon among the northern races, though in the southern states there are many cases where the villages were surrounded by artificial ditches and ponds of water. (3) The manner of constructing the wall which surrounded the defensive village enclosures. We call special attention to the elevated platform or parapet, as it may possibly help us to understand the manner in which the villages of the Mound-builders were defended. If we substitute for this timber wall a solid earth work, making the top of the earth wall a platform or parapet, and place the barricade on the outside, we shall have a defense very similar to this of the Iroquois. The combination of stockade with an earth wall would thus make an admirable defense for a village, and with much less expense of labor and time than if it were wholly of timber.

In reference to this Rev. William Beauchamp advances the idea that the erection of earth-walls as parapets preceded this method of stockades with platforms, but that the latter was found to be the easier method, so the earlier mode was abandoned. A view of one of these stockade forts is given by Sir

William Dawson in his work "Fossil Men." He has given a quotation from Cartier's voyage, which describes this fort at Hochelaga, and has given a cut of the fort as it existed. According to the cut the walls of the fort were built of round trunks of trees, rather than of planks, but the town was a regular circle, with the houses arranged around a square. "The city of Hochelaga is round compassed about with timber, with three course of rampires, framed like a sharp spire or pyramid. It had but one gate or entry, which is shut with pikes, stakes and bars. Over it, and also in many places in the wall, there is a kind of gallery to run along and a ladder to get up with, and all filled with stones and pebbles for the defense of it. There are in the town about fifty houses, at the utmost fifty paces long and twelve or fifteen broad, built all of wood and covered with bark. They have in the middle of their towns a large square place, being from side to side a good stone's cast. They showed us the manner of their armor. They are made of cordes and wood finely wrought together." The diameter of this enclosure is given as about 120 yards, and each side of the square in the center about thirty yards. It was situated at the base of Mt. Royal, on a terrace between two small streams. The opinion is expressed that it was intended to accommodate the whole population in times of danger.

3. A third class of stockades is one which we are now to consider. It consisted in creating an enclosure capable of holding an extensive settlement, placing a heavy earth wall about the enclosure, and surmounting this by a palisade of timber. This was the common method among the Mound-builders of the ruder class. There are many such fortifications scattered over the Mississippi Valley. Some are situated in the prairie district, others in the forest region. Many such are found in New York, Michigan and Southern Ohio, but they should be distinguished from the regular Mound-builders' forts. The peculiarity of this class of stockades was that they were very large. The area within them frequently amounted to thirty or forty acres, though twelve to fifteen acres would perhaps be the average. We may take the fortified hill near Granville, Ohio, as a good specimen of this class. It encloses the summit of a high hill and embraces not far from eighteen acres. The embankment is carried around the hill and conforms generally to its shape. The ditch is on the outside of the wall, the earth having been thrown inward. There are no palisades on the summit, but the probabilities are that these surmounted the wall and have perished. Upon the highest part of the ground within the enclosure there is a small circle, two hundred feet in diameter, within which are two small mounds. Upon excavation, these mounds were found to contain altars.

A fortification similar to this is described by Squier and Davis,

as existing near the sacred enclosure on the Scioto River. This also had a monnd in its center, and within the mound an altar. On this altar were discovered some remarkable relics. The area of this was twenty-five acres. It is surrounded by a ditch, and has six gateways. The character of the work resembles that of an ordinary stockade fort. The only thing which would identify it as the work of the Ohio Mound-builders is its proximity to the sacred enclosure called Mound City and the fact that it contained a mound with a paved fire-bed and the remains of a sacrifice. The Granville works contained a very large mound in the exact center, and yet had all the characteristics of the common stockade. The discovery of the paved altar in the fort near Chillicothe has been interpreted by some as proving the identity of the Mound-builders of Ohio with the stockade-builders of New York, but in the absence of other proof we must consider it a mere conjecture. Stockade forts like these were very common throughout the Mississippi Valley, but they are generally ascribed to the later rather than to the earlier Mound-builders. The prevalence of stockade forts in the midst of the Ohio Mound-builders' works only proves a succession of population.

Descriptions of the stockade forts have been given by Squier and Davis. We would refer the reader to the work by these authors for more definite information. Nearly all of these have high mounds in the interior of the enclosure or in the vicinity, which vary from twelve to fifteen feet in height, and were probably used as lookouts.

We give a copy of the plate (see Fig. 2) from the "Ancient Monuments," which exhibits a section of six miles of the Great Miami Valley. No less than seven enclosures are in this space, the most of them forts. It will be noticed that, besides the square enclosure (C), there are three classes of stockades. 1. Those which have remarkable gateways (A). 2. Those which have double walls, ditches and lookout mounds (B). 3. Those which have single walls across a promontory (G). The forts which interest us are those with the remarkable gateways. Some of them are on the terraces near the river, several are upon the summit of the bluff overlooking the terraces. In area they vary from eighteen to ninety-five acres. We shall describe at present only a few of these, the ones called stockades—these being the largest. The fort marked A will be described under the head of "Hill Forts". It will be noticed that there are lookout mounds on all of the high hills; that the hill fort is isolated and well protected by walls on all sides; that the stockade forts are on lower ground than the hill forts, being situated on the terrace, near the river. We make a distinction between these forts, because they seem to belong to different periods and were probably built by different classes or races of Mound-builders. We take

the one called the Colerain, six miles south of Hamilton. It encloses ninety-five acres. Its walls have an average height of nine feet. It commands a large peninsula, two miles in circumference, formed by a singular bend in the river. It is upon the terrace, which is thirty-five feet above the river. Some distance from the fort, and still further to the south, is a hill three hundred feet high, upon the top of which are two mounds measuring five and ten feet in height; they are composed of earth and stones considerably burned. There is a ditch on the outside of the wall. See Fig. 4. At one extremity of the works, the wall is looped, forming a bastion of singular shape.

This fort is classed with the stockades. We elsewhere ascribe it to the serpent-worshipers, classing it with the old work at Fort Ancient and with the fort near Hamilton, and others. Our reasons for so classing it are as follows: 1. Its great size. Squier and Davis say that it is a work of the first magnitude and compare it to Clarke's Fort, on the north fork of Paint Creek. 2. The unusual height of the walls—nine feet—would indicate that it was no ordinary stockade. 3. The peculiar shape of the gateway. 4. The location of the fort. It is on the terrace overlooking the flood plain. It is not a hill fort, and hardly answers to the stockade fort. It seems to have been a village—perhaps a village of the serpent-worshiping Mound-builders.

Two other forts, which we class among stockades, may be seen on this map. One is situated on the terrace near the river. It covers eighteen acres, and is surrounded by a double wall, with the ditch on the inside. The peculiarity of this fort is that the inner wall and ditch pass over a large mound, which is denominated a lookout mound.

The next fort in the series is situated on the Big Miami River, six miles south of Hamilton. It consists of a simple embankment of earth carried around the brow of a high, detached hill, overlooking a wide and beautiful section of the Miami Valley. The side of the hill on the north, towards the river, is very abrupt and rises to the height of one hundred and twenty feet above the valley, from which an extended view may be obtained. There are two mounds of earth placed near together, on the highest point within the enclosure, measuring ten feet in height. The area of this enclosure is twenty-seven acres.

Two other enclosures containing single walls and single gateways are mentioned. One on Four-mile Creek contains twenty-five acres, and is situated on a promontory formed by a bend of the creek. The other is on Nine-mile Creek. Both of these have high mounds in the interior of the enclosure, varying from twelve to fifteen feet in height, which were probably used as sacrificial or lookout mounds.

Two other fortifications are mentioned by Squier and Davis,

REESE LIBRARY

situated on the Miami River, one of them two and a half miles above the town of Piqua. It occupies a third terrace, which here forms a promontory. It contains about eighteen acres, and is surrounded by a wall composed mainly of stone. The other is on the bank of the Great Miami, three miles below Dayton. It resembles the one southwest of Hamilton. The side of the hill towards the river is very steep, rising to the height of one hundred and sixty feet. At this point there is a mound, which commands a full view of the surrounding country for a long distance up and down the river. A terrace, apparently artificial, skirts the hill thirty feet below the embankment. The terrace may be natural, but it has all the regularity of a work, and may be compared to the work at Fort Ancient.

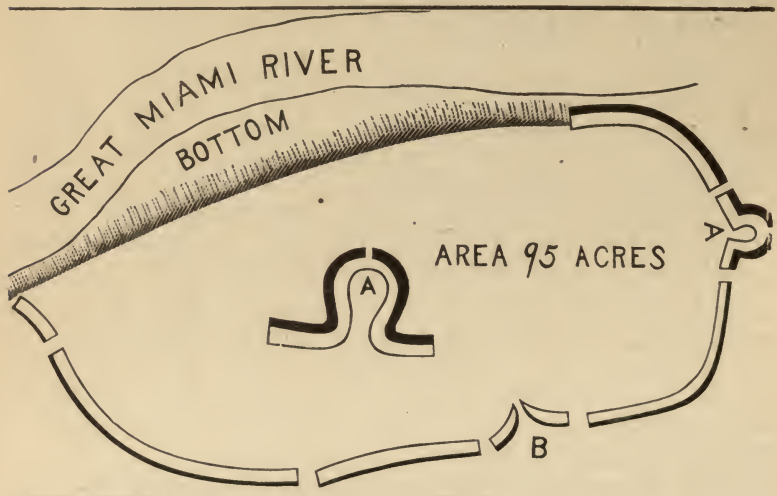


Fig. 4.—The Works at Colerain.

The next fort which we shall mention is also situated on the Miami. Fig. 5. It corresponds in all essential particulars with those already described, with the exception of the gateway. It occupies the summit of a promontory bordering the river, which upon three sides presents high and steep natural banks, rendered more secure for purpose of defense by artificial embankments. The remaining side is defended by a wall and ditch, and it is from this side only that the work is easy of approach. The most interesting feature in connection with this work is the entrance on the south. The ends of the wall curve inwardly as they approach each other, upon a radius of seventy-five feet, forming a true circle, interrupted only by the gateways. Within the space thus formed is a small circle, one hundred feet in diameter; outside of which, and covering the gateway, is a mound

(e), forty feet in diameter and five feet high. The passage between the mound and the embankment, and between the walls of the circles, is now about six feet wide. The gateway or opening (d) is twenty feet wide. This singular entrance, it will be remarked, strongly resembles the gateways belonging to a work to be described under the head of stone forts, although much more regular in its construction. The ditches (f f) which accompany the walls on the south subside into the ravines upon either side. These ravines are not far from sixty feet deep and

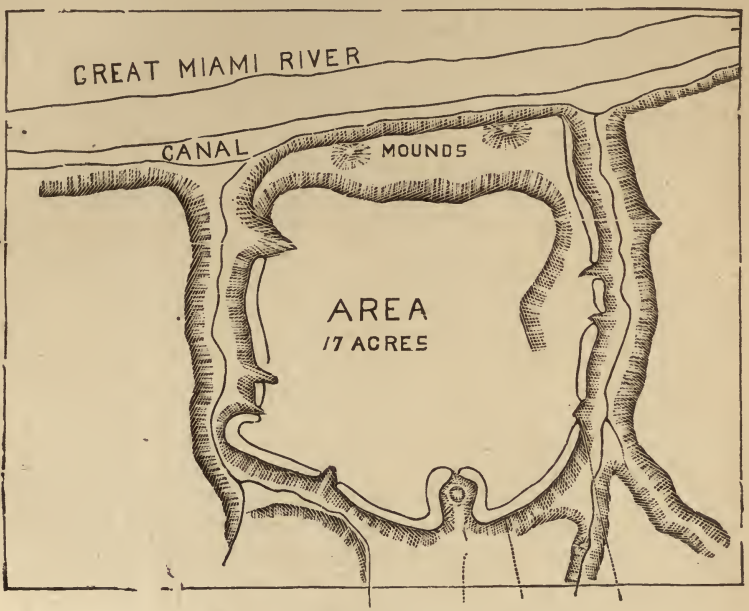


Fig. 5.—Works near Hamilton, Ohio.

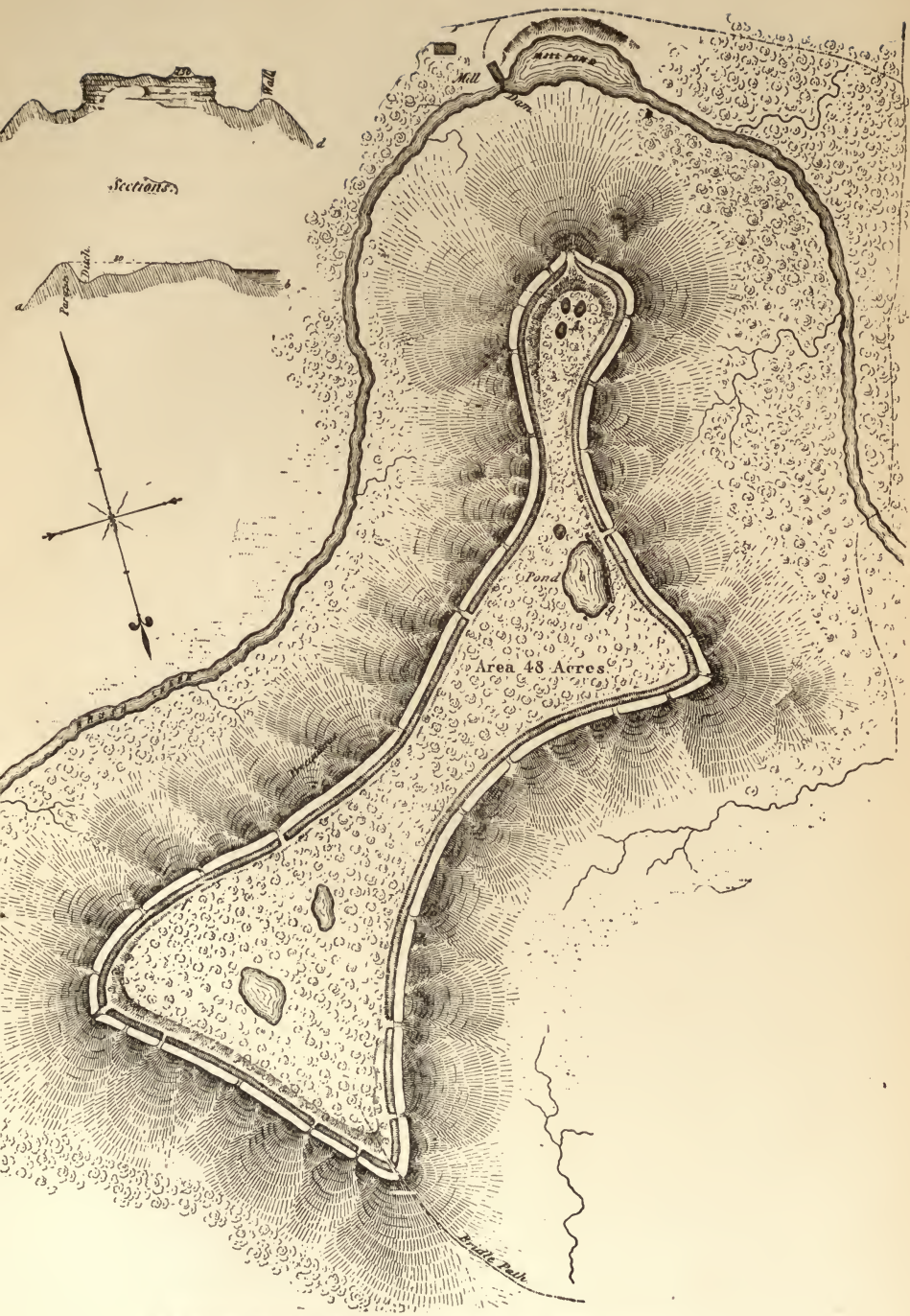
have precipitous sides. The area of the work is seventeen acres. The valley beyond the river is broad, and in it are many traces of remote population, of which this work was probably the fortress or place of last resort during turbulent periods. The gateway of this enclosure resembles serpents' heads, and reminds one of the entrance to the lower enclosure of Fort Ancient.

III. We now turn to the third method of defense. This consists in the selection of some "stronghold" of nature and there placing a fortification, walls of earth being placed on the summit of the precipice as a supplement to the natural defense, the whole designed to be a place of retreat in time of danger. To understand clearly the nature of the works, it should be remembered that the banks of the rivers are always steep, and where these are located they are invariably high. The edges of the

table lands bordering on the valleys are cut by a thousand ravines, presenting bluffs, high hills, steep and detached and isolated heights with steep sides, and cliffs which are precipitous and often absolutely inaccessible. The natural strength of such positions certainly suggest them as the citadels of the people having hostile neighbors or pressed by invaders. Accordingly we are not surprised to find these heights occupied by strong and complicated works, the design of which is no less indicated by their position than by their construction.

Here let us say that these fortifications are to be distinguished from the walled towns or villages so common in certain parts of the country, especially in Southern Ohio. In reference to this we are to notice (1) that the fortifications are always placed on high and steep hills. Their walls always take the form of the outline of the hill, and hence are more or less irregular in shape, as they enclose the whole top of a hill and conform to the shape of the hill in contour. The walled villages are more regular. They are usually found on a level plain, one of the river benches or terraces, and have no natural barriers to prevent the regularity of their shape. The square and circle predominate, and are often found united in a seemingly arbitrary manner. (2.) In point of size, the fortifications vary greatly. Some of them contain only a few acres; others contain from one hundred to four hundred acres. The fortified villages are, however, quite uniform; the area varying from eighteen to fifty acres, but the majority containing about twenty-seven acres. (3.) The position of the ditch, whether inside or outside of the vallum or wall, is to be noticed. At one time it was thought that all works which had the ditch on the inside were sacred enclosures, while those which had the ditch outside were fortifications belonging to the Indians. There is, however, no uniformity. The material taken from the ditch was placed in the embankments, and in cases of fortifications on the hilltops it would be a matter of necessity that the ditch should be on the inside, the excavations or pits from which the dirt was scraped being in the immediate vicinity of the wall. The forts are found on the tops of the highest hills. They were sometimes surrounded by stone walls and sometimes by earth embankments, according to the convenience or abundance of the material furnished by the locality. (4.) Mound-builders' forts in Ohio were characterized by much engineering skill, and are distinguished from later Indian forts by this circumstance. Some of the Mound-builders built their forts very large and placed elaborate and complicated walls at their gateways, exercising much military skill in erecting the walls and planning outworks which would furnish the best protection. Others erected only rude earth walls, took no pains with their gateways and exercised little skill in their construction. There are many such fortifications.

This class of defenses we have called "hill forts." This term we



EARTH FORT IN HIGHLAND COUNTY, OHIO.

use for the sake of convenience, rather than for its accuracy. Nearly all the forts are situated upon hills, but the "hill forts" technically so called, are different from the ordinary class. Their strength consists in the fact that the hill upon which they are placed is itself a stronghold. The artificial wall placed upon the hilltop is only supplementary to the defenses of nature. The "hill forts" so called are very common in Southern Ohio. They are found at the mouth of the Little Miami River, on Brush Creek, on Paint Creek and in many other localities. Some of the largest forts in the Mississippi Valley are included in this class. Descriptions of "hill forts" have been given by Squier and Davis; we shall draw from them our information.

1. The first fort which we shall describe is called Fort Hill. "It is situated in the southern part of Highland County, thirty miles from Chillicothe. The defensive works occupy the summit of a hill five hundred feet above the bed of Brush Creek and eight hundred feet above the Ohio River. The hill stands isolated, and is a conspicuous object from every approach. Its sides are precipitous. The fort has an area of forty-eight acres. Running along the edge of the hill is an embankment of mingled earth and stone, interrupted at intervals by gateways. The length of the wall is 8,224 feet—something over a mile and a half. The ditch on the inside has an average width of fifty feet. The height of the wall, measuring from the bottom of the ditch, varies from six to ten feet, but rises in places to fifteen feet. There are thirty-three gateways, most of them not exceeding twenty feet in width. Considered in a military point of view the spot is well chosen and well guarded, and may be regarded as nearly impregnable and as a natural stronghold. It has few equals. The degree of skill displayed and the amount of labor expended in constructing its artificial defenses challenge our admiration and excite our surprise. The evidence of antiquity is worthy of more than a passing notice. The crumbling trunks of trees and the size of the trees which are still living would lead irresistibly to the conclusion that it has an antiquity of at least one thousand years." Plate V.

2. We turn to the works at Fort Ancient. This is a remarkable specimen of a "hill fort."* Here is an enclosure capable of holding an extensive settlement, the walls being nearly three miles and a half in extent, and the area of the enclosure being about one hundred acres. We see also an outwork, consisting of a covered way, which runs from the enclosure toward the east. This outwork is distinguished by one feature: At the end of the covered way is an observatory mound. The supposition is that this observatory was the place where a watchman was stationed, but that the distance was so great that the com-

*The book on Fort Ancient by W. K. Moorehead is the best authority.

munication might be cut off, and that the parallel walls were constructed so as to give protection to the sentinel and to keep up a communication. The country about the enclosure, especially that to the east, is open prairie and has no natural defense. This wall is 2,760 feet in length. The original height of this wall is not known, as cultivation of the soil has nearly obliterated it Two high mounds are found between the enclosure and the covered way, making a double opening to the enclosure, and, at. the same time, giving an outlook from this point. The enclosure itself is remarkably well adapted to the purpose of defense. See Fig. 6.

(1) Its situation is to be first observed. It is on top of a promontory defended by two ravines, which sweep around it to either side, forming precipitous banks, in places 200 feet high. The ravines are occupied by small streams, with the Miami River close by, and below the works, on the west side. The hill upon which it is located is divided into two parts by a peninsular, its summit being two hundred and thirty feet above the level of the Little Miami. On the verge of the ravine the embankment is raised, and winds around the spurs and re-enters to pass the heads of gullies, and in several places it is carried down into ravines from fifty to one hundred feet deep.

(2.) The Walls.—The fortification is a strong one. Where the work is most exposed to an enemy it is of the greatest solidity and strength. At the isthmus the walls are twenty feet high. Where the Chillicothe road enters from the west the walls are fourteen feet high and sixty feet base. There are over seventy gateways. These openings appear to have been originally ten to fifteen feet in width. It has been suggested that some of these gateways were once occupied by block houses or bastions. Although the wall is chiefly built of earth gathered from the adjacent surface and from the interior ditch, it is partially underlined with stone. One of the most interesting facts is the different methods adopted for defending the more easy approaches. Here the wall is of ordinary height, but the ridge immediately outside is cut down several feet, so as to present a steep slope. This gives the appearance of a terrace a few feet below the wall. In reference to the terrace, there are important features. The isthmus just north of the so-called large mounds is undefended. This fact, as well as the difference in the constructlon of the walls of the different parts, has led certain persons to the conclusion that there were two forts, oue called the "old" fort and the other the "new".

(3.) The Terraces.—One terrace is located in the wildest region. It is situated in the southeast portion of the old fort. The terrace is covered with stone graves, the contents and construction of which have been described by Mr. Warren K. Moorehead. At the southwest there are two large terraces, between

the top and bottom of the hill. These terraces are supposed by many to have been merely natural, but by Squier and Davis, Moorehead and others they are thought to be artificial. It has

Fig. 6.—Fort Ancient.

been suggested that they were designed as stations from which to annoy an enemy. Mr. Moorehead dwells upon the terraces of the region, maintaining that they are all artificial. He gives the entire length of these terraces as amounting to ten miles. They are from twenty to twenty-five feet wide, and run along the

hillsides with surprising regularity of height, and have the appearance of structures designed for a purpose.

(4.) The gateways of Fort Ancient are among its most important features. There are seventy-four of these, and they differ greatly in their dimensions. Some of them are thirty feet wide at the top and ten feet at the base; others are twenty feet at the top and five feet at the base. The wall of either side is always sloping. In many places there are large quantities of stone at the ends of the walls. These stones lie in a confused mass, but it is supposed that they were used as a wall to hold and strengthen the embankment. The position of the gateways is also to be noticed. It appears that some of them open out upon the terraces; others open to the road leading down the hill, which is now occupied by the pike. One to the east opens out to the prairie region, but it is guarded by two conical mounds, and instead of furnishing a passage-way to the open country, only leads to the long, narrow covered way which extends from this point to the east.

The Great Gateway.—The gateway is situated between the two forts. Here two mounds about twenty feet high and ten feet apart leave just space enough for a wagon to pass between them. At their base is a raised platform four feet in height. When examined it was found to contain many human bones. Outside of the gateway, in the space between the two forts, for a considerable distance, there is no embankment, the ravines here having a steep angle and coming very near together, so as to make a narrow passage way. All about this gateway are masses of stone. These must have been piled up in the form of a rude wall to strengthen the base of the embankment. Here the embankment is the steepest of the entire earth-work. The stones are on the outside of the wall . "From the great gateway the two walls which constitute the old fort greatly diverge. The wall running east swings around to the south; the other wall runs in a very irregular manner and is more tortuous than any other portion of the entire structure." This is the place where we recognize the snake effigy.

Other gateways are found at intervals on the different sides of the fort. The supposition of Squier and Davis is that some of these were formerly occupied by bastions and block houses. The so-called east gateway is the one which forms the direct entrance. It is a remarkable feature of the fort. It consists of two large conical mounds, which seem to have been placed at the openings both as guards and as lookouts. The dimensions of these mounds is given as twelve feet in height and eighty feet in diameter. Between these two mounds is a pavement laid with limestone. The use of the pavement is conjectural. Some of the stones give evidence of having been subjected to the action of fire. The area of the pavement is said to be 130x500 feet.

(5.) The Covered Ways.—Running due northeast from these two mounds are two parallel walls or embankments, about a foot in height and twelve feet wide. They run for a distance of 2760 feet and terminate by enclosing a small mound, about three feet high. They are 130 feet apart. A suggestion has been made in reference to these, that they were used as a race-ground, and that the wall at the end was the goal or turning point. Our conjecture is that the mound was a lookout station, and that the walls were designed to protect the sentinels and to keep open communication between the fort and signal station.

(6) The Isthmus.—The division of the fort into two enclosures has been noticed. A peninsula joins the two forts. This has been called the "isthmus." The isthmus, however, seems to be a sort of middle fort. Here we find crescent-shaped embankments on one side and a great gateway on the other. "The space is well enclosed, and is one of the strongest positions of the entire fortification." The crescent gateway, on account of its beauty and the curve of its walls, may be regarded as belonging to the new fort. The other so-called gateway may be regarded as belonging to the old fort. Here the question of symbolism comes in. We have said that the walls of the old fort resemble two massive serpents, and that the mounds at the end, which constitute the sides of the gateway, represented the heads of the serpents. We now maintain that the crescents forming the gateway to the middle fort were also symbolic, and at the isthmus we find the clue to the character of the builders of the two forts. There is a crescent-shaped embankment near the western opening to the new fort. This we also regard as symbolic. We conjecture that the new fort was erected by the sun-worshipers and the old fort by the serpent-worshipers.*

(7.) In reference to the old enclosure, it appears almost certain that a large village once flourished within this fort. The wall is much more irregular than in the new fort. The terrace on the east side of the gateway has many stone graves. The stone graves are generally outside of the walls. "The terraces on the west side have scattered graves on them." Large quantities of stone were placed over the graves, one hundred wagon-loads in one place and forty in another. In the river valley below Fort Ancient was a village site. Ash-heaps were discovered here, and also many relics of a rude population. Five feet of earth were above the lowest site of the village. Well preserved skeletons have been found. "Three village periods have been recognized, and the mingling of two races seems to be indicated by the relics." The new fort was evidently built by a people more advanced than those of the old fort. The walls are much more skillfully constructed, have more perpendicular sides, sharper angles, wider gateways, and give more evidence of workmanship.

*Illustrations of the different parts of this fort are given by Mr. W. K. Moorehead

3. The fortified hill in Butler County is another specimen of a "Hill Fort". This is situated on the west side of the Great Miami River, three miles below the Hamilton. The hill is not far from two hundred feet high, surrounded on all points by deep ravines, presenting steep and almost inaccessible declivities, skirting the brow of the hill and conforming to its outline. Its wall is of mingled earth and stone, having an average height of five feet, by thirty-five feet base. The wall is interrupted by four gateways or passages, each twenty feet wide. They are protected by inner lines of embankments of a most singular and intricate description.

The gateways in this fort are its distinguishing peculiarity. It will be noticed from the plate that they occur where the spurs of the hill are cut off by the wall or parapet and where the declivity is the least abrupt. Two of them have the inner walls arranged after the same manner, with re-entering angles, curved walls, narrow passage-ways, excavations in the passage-ways. It will be noticed also that there are stone mounds on the summit of the hill near the gateways.

This style of gateway has been called the Tlascalan, as it is common among the Tlascalans and the Aztecs. The ends of the wall overlap each other, in the form of semi-circles having a common center. The northern gateway is especially worthy of notice. The principal approach is guarded by a mound, which was used perhaps as an alarm post. A crescent wall or embankment crosses the isthmus, leaving narrow passages between its ends and the declivity. Next comes the principal wall of the enclosure. Within this are two crescent-shaped embankments, placed between two prolongations of the walls, making a series of defenses so complicated as to distract and bewilder the assailants.

The stone mounds or beacons are to be noticed in this connection. These mounds are placed on the summit of the hill at the very entrance of the gateways. Similar stone mounds are found elsewhere, and they form a striking feature of the "Hill Forts". It is probable that they were used as beacons and that fires were lighted upon them.

The height of the ground is also to be noticed. It gradually rises from the interior to the height of twenty-six feet above the base of the wall, and overlooks the entire adjacent country. In the vicinity of this work are a number of others occupying the valley. The location of this fort will be seen by a study of the map of the works on the Great Miami.

4. Another "Hill Fort" that may be mentioned is represented on the same map. It is situated at the mouth of the Miami, six miles from Hamilton. It occupies the summit of a steep, isolated hill, and consists of a wall composed of earth thrown from the interior. The three sides are as nearly perpendicular as they could be. The wall corresponds to the outline of the hill,

but it cuts off a spur, leaving a promontory outside the walls. On this promontory is a mound, corresponding in its purpose with that which guards the principal avenue in the fortified hill just described. This fort was visited by Gen. Harrison and was regarded by him as admirably designed for defense, exhibiting extraordinary military skill and as a citadel to be compared to the Acropolis at Athens.

5. Two "Hill Forts" remain to be described. One of these is situated on the Big Twin, near Farmersville. It has been described by Mr. S. H. Brinkley. Its form is an irregular triangle,

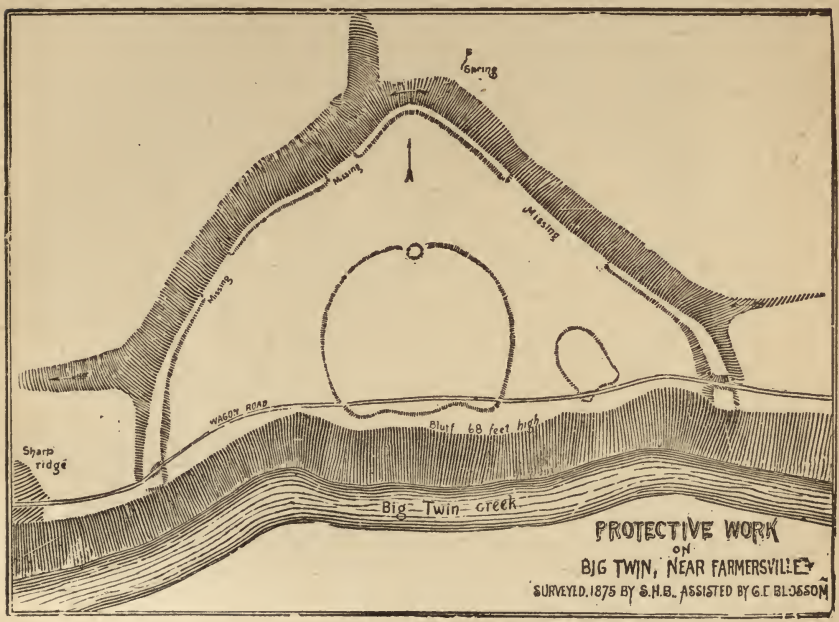


Fig. 7.—Farmersville Fort.

two sides resting upon the margins of wide ravines, the third on the Big Twin. The wall extends along the edge of the ravine; it is five feet high and forty feet wide; is flanked by a ditch on the inside. The entire length is two hundred and sixty-seven feet. There are three enclosures within this fort; two in the shape of horse-shoes; the third is a small circle. One of the horse-shoe enclosures has a diameter of three hundred and eighty feet north and south, four hundred feet east and west. The diameter of the other is one hundred and eighty-five feet and one hundred in width. The circle is but twenty-five feet in diameter. It is placed at the entrance of the larger enclosure, which is here forty feet wide. See Fig. 7.

These remarkable enclosures have been excavated and found to contain fire-beds or hearths filled with charcoal and ashes.

The supposition is that these hearths marked the sites of lodges. The shape of the enclosure is remarkable. It reminds us of the horse-shoes at Portsmouth, Ohio. What is strange is that a stone object wrought out of dark shale, with an exact representation of a horse-shoe upon it, was found in an adjacent field.

The gateway to the horse-shoe enclosure is noticeable. It is an exact circle twenty-five feet in diameter. This circle was placed at the entrance of the enclosure, partially filling the space, the entire opening being forty feet; but the circle took a little more than twenty-five feet, leaving a space or passage way on either side of it. Mr. Brinkley's idea is that the circle was the council house and that the horse-shoe enclosure was the place of residence. This is plausible, and yet it is the only enclosure of the kind which has been discovered. The other fort which Mr. Brinkley has described is also situated on the Big Twin, a tributary of the Great Miami. Its location is on a hill or bluff near Carlisle, so it has been called Carlisle Fort. See Fig. 8. The work comprises two distinct enclosures. The eastern division contains about nine acres, the western about six acres; the eastern division is protected by the precipitous bluffs which border upon the Big Twin, or rather which overlook the bottom lands or terrace of the Big Twin. On the north and south there are deep ravines, which protect it on those sides. The space between the two enclosures is made secure by a remarkable combination of walls in the form of a symetrical crescent, three successive lines stretching, in graceful bends, from one ravine to the other, leaving a space between of forty feet and sixty-five feet, measured at the middle point. The inner wall is continued along the crest of the ravine, and forms a circumvallation for the fort. The length of the crescent-shaped wall is about four hundred and fifty feet; the height was originally about five feet. The western enclosure is protected by a ravine which passes around three sides of it. On the summit, overlooking this, there is a circumvallation, which is about three hundred and fifty yards in length and encloses about six acres. At a point between the two forts there is a ravine which partially separates them, but from which a spring flows into the bottom land. Above this ravine is a wall, which protects the western fort, and near the wall two circular enclosures, which seem to have formed guards to the gateway or entrance to the fort, though they may have had connection with the spring below. In the eastern division there was a stone enclosure, seventy-eight feet in length and forty-five feet in breadth, in the shape of a horse shoe, with a return at each corner, leaving an open space one-third of the width, fronting the east. The object of this horse-shoe enclosure is unknown. Mr. Brinkley thinks it was the foundation of a building, but of this there are no proofs. We would here call attention to the resemblance of Carlisle Fort to that at Fort Ancient. It is a double fort, the

STONE FORT IN ROSS COUNTY, OHIO.

REESE LIBRARY
OF THE
UNIVERSITY
CALIFORNIA

two enclosures being separated by an isthmus, guarded by triple crescent-shaped walls. The entrance to this fort is by a path consisting of a most delightful promenade, which leads by an easy grade from the fort to the terrace. "The promenade is located on a ridge, but improved by the plastic hand of man." This promenade is on the side which leads to the Big Twin. One remarkable feature of this gateway is that near it there was a signal station or lookout mound and not far from the mound a pavement or fire-bed, beneath which were traces of fire.

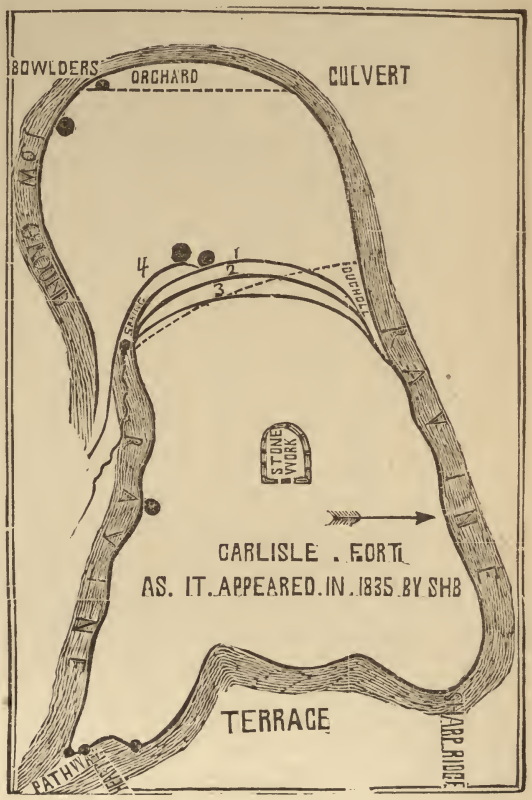


Fig. 8.—Carlisle Fort.

This hearth or fire-bed is worthy of notice. The evidence is that here, as at the Farmersville Fort, there were fire signals. The walls near the gateway show this as well as the pavement. Near the Big Twin works there was a truncated mound thirteen feet high and a pavement ninety feet square. Near this pavement were ashpiles, which had been poured over the sides of the cliff, until they had attained a depth of ten feet. The symbolism connected with these forts is somewhat remarkable. Here we have the fire at one end of the fort and the water supply at the other; the hearths or pavements connected with one and circles connected with the other. The horse-shoe symbol is contained in the shape of the bluff itself and in the stone enclosure on the summit of the bluff.

IV. We now come to another class of strongholds, namely the "Stone Forts." These forts resemble the "Hill Forts" and may, by some, be regarded as identical. We classify the stone forts separately. Our reasons for so doing are as follows: (1) They seem to be more advanced in their style and

mode of construction. Wherever they are located they are always characterized by the same feature. They are generally situated on eminences, where there are rocky precipices. (2.) In several cases the precipices are veneered with artificial walls which make a barrier against the wash of streams and furnish a foundation to the walls above. (2.) The gateways of the stone forts are frequently quite elaborate. The wall is generally four or five feet high and varies from twenty to thirty feet wide at the base. It is sometimes laid up in regular order, making a smooth even front with sharp angles, but generally is merely in the form of an irregular pile of stone, and resembles an earth wall, except that the material is different. The question has arisen whether the wall was surmounted by a stockade; on this point there is uncertainty. The stone walls generally conform to the nature of the ground. Stones were employed because they could be readily procured, although the hammer had nothing to do with the preparation of the materials, yet there is evidence of great labor and the place of location is selected with a military eye.*

The stone forts may properly be considered as belonging to the village Mound-builders, and perhaps were designed as especial retreats for the villagers. It will be noticed, at least, that in Ohio this kind of fort is frequently situated in the midst of square enclosures, so giving evidence that they were built by the same people.† In the Miami Valley there is a square enclosure on the terrace, and the fort is on the hill near by. So with the fort at Bourneville. This is situated in the midst of the valley of Paint Creek, and was surrounded by enclosures, which we have imagined to be villages of the sun-worshipers. The same is true of the fort on Massie's Creek, near the Big Miami River. The stone fort near Manchester, Tennessee, and that of Duck Creek, of the same state, may be regarded as specimens; yet these were located near the walled villages of the Stonegrave people and may have been built by that people. The same may be said of the stone fort of Southern Indiana. This last fort was located on the Ohio, somewhat remote from the region of the "sacred enclosure," so called, but there are on the White River many earth-works which resemble those on the Scioto, and so we place this stone fort among the works of the sun-worshipers.

The subject of symbolism comes in here. It is to be noticed that two of the forts—Bourneville and Massie's Creek, in Southern Ohio—have walls in the shape of crescents, with mounds between the walls. Our conjecture is that these were designed as symbols. This last fort is beautifully situated on a hill-top, but is attended with a large square enclosure situated in the valley. The fort has a series of gateways guarded by conical mounds,

*Haywood's Tennessee.
†See map of Miami Valley; also of Paint Creek and the Scioto.

and an outer wall, divided into four sections, in the shape of crescents. See Fig. 9. The enclosure is nearly square, and is attended with several earth embankments, which are also in the shape of crescents. The impression gained is that here was a settlement of sun-worshipers.

The difference in the symbolism of the forts is to be noticed in this connection. The Hill Forts, if they contain any symbolism, contain that of serpent-worship; but the Stone Forts illustrate the symbolism of the sun-worshipers. The Hill Forts were generally located in a wild or rough hill country—a country which was probably occupied by hunters. The Stone Forts

No. 9—Stone Fort on Massie's Creek.

were generally located in regions favorable for agriculture and are surrounded by evidences of a numerous population; a population which was given to agriculture. With these conjectures we proceed to a description of the specific forts.

1. One of the best specimens of the stone forts is at Bourneville. See Plate VI. The description of this is given by Squier and Davis. It occupies the summit of a lofty, detached hill twelve miles west of Chillicothe. The hill is not far from forty feet in height. It is remarkable for the abruptness of its sides. It projects midway into the broad valley of Paint Creek, and is a conspicuous object from every point of view. The defenses consist of a wall of stone, which is carried around the hill a

little below the brow, cutting off the spurs, but extending across the neck that connects the hill with the range beyond. The wall is a rude one, giving little evidence that the stones were placed upon one another so as to present vertical faces, though at a few points the arrangement lends to the belief that the wall may have been regularly faced on the exterior. Upon the western side, or steepest face of the hill, the stones are placed so as to resemble a protection wall. They were probably so placed to prevent the creek from washing away the hill and undermining the fort. Upon the eastern face, where the declivity is least abrupt, the wall is heavy and resembles a stone heap of fifteen or twenty feet base and four feet high. Where it crosses the isthmus it is heaviest. The isthmus is seven hundred feet wide. Here the wall has three gateways.

The gateways are formed by curving inward the ends of the wall for forty or fifty feet, leaving narrow passages not exceeding eight feet in width. At other points where there are jutting ridges are similar gateways, though at one point a gateway seems to have been for some reason closed up. At the gateways the amount of stone is more than quadruple the quantity at other points, constituting broad, mound-shaped heaps.

These stone mounds exhibit the marks of intense heat, which has vitrified the surfaces of the stones and fused them together. Strong traces of fire are visible at other places on the wall, particularly at F, the point commanding the broadest extent of country. Here are two or three small stone mounds that seem burned throughout. Nothing is more certain than that powerful fires have been maintained for considerable periods at numerous points on the hill. There are several depressions or reservoirs, one of which covers about two acres and furnishes a supply of water estimated as adequate to the wants of a thousand head of cattle. The area enclosed within this fort is something over one hundred and forty acres, and the line of wall measures upwards of two and a quarter miles. Most of the wall and a large portion of the area was covered with a heavy primitive forest. Trees of the largest size grew on the line, twisting the roots among the stones. The stones were of all sizes, and were abundant enough to have formed walls eight feet thick. In the magnitude of the area enclosed, this work exceeds any hill-work now known in the country, although less in length than that of Fort Ancient. It evinces great labor and bears the impress of a numerous people. The valley in which it is situated was a favorite one with the race of Mound-builders, and the hill overlooks a number of extensive groups of ancient works.

2. The stone fortifications in Clark County, Ind. This is a very interesting fort, situated at the mouth of Fourteen-mile Creek, on the Ohio River, at the point of an elevated, narrow ridge, which faces the river on one side and the creek on the

other. This fort presents many new and strange features The ridge is pear-shaped, with a narrow point to the north, the broad part toward the river. It is two hundred and eighty feet above the level of the Ohio, though at the south end there is a terrace which is sixty feet above the river. Along the greater part of the river front there is an abrupt escarpment of rock, too steep to be scaled, and a similar barrier on the side facing the creek. This natural wall is supplemented on the north side by an artificial stone wall made by piling up loose stone without mortar. It is about one hundred and fifty feet long. It is built along the slope of the hill and had an elevation of about seventy-five feet above its base, the upper ten feet being vertical. The inside of the wall is protected by a ditch. The ridge on the south and southwest sides, or the broad end of the pear, is also protected by an artificial wall, built in the same way, but not more than ten feet high. The elevation of the side wall above the creek bottom is eighty feet. This artificial wall is supplemented by a string of mounds which abut against the wall on the inside, but which rise to the height of the wall throughout its entire length. Within the fort there is a ditch twenty feet wide and four feet deep, which separates the mounds from the enclosure, or rather from the ridge, on the summit of which the fort was supposed to be. The top of the enclosed ridge embraced ten or twelve acres. There are as many as five mounds that can be recognized on the flat surface. One near the narrowest part (the stem of the pear) was so situated as to command an extensive view up and down the Ohio River, as well as an unobstructed view across the river and a creek, both east and west. It is designated as Lookout mound.

The locality afforded many natural advantages for a fort or stronghold. Much skill was displayed in rendering its defense as perfect as possible at all points. One feature about the fort is unique. The wall is made up both of stone and earth, the stone forming a shield to the earth wall, part way up on the inside, and completely to the summit on the outside, the two together forming an elevated platform which overlooked the steep bank below, and offered an excellent opportunity for defense. The wall, and accompanying mound or earth-work, is situated below the summit of the ridge on an escarpment of rock, with a ditch on the inside, so that there was a double defense, the wall itself serving as an outwork, and the sides of the ridge inside forming a second barrier fordefense. Prof. Cox says of this fort: "In the natural advantages of the location and in the execution of the bold plans conceived by the engineers of a primitive people, this fortification surpasses any which has yet been found in the State. The walls around the enclosure, which fill up the protected spaces, are generally ten feet high, but at a naturally weak point on the northwest part the gap was closed by a wall that from the outer case to the top was

seventy-five feet high. From the summit of the ridge, which is two hundred and fifty feet above the river, one can look over the beautiful scenery for a stretch of eight or ten miles up or down the Ohio River."

(3.) Prof. Cox speaks of a second fort or enclosure, on the spur of a ridge skirting Big Creek, in Jefferson County. "The ridge is protected on the north and south by a natural cliff, sixty-five to eighty feet high. Across the narrow neck of the spur of the ridge were two artificial stone walls, one seventy-five feet long and twelve feet wide, and the other four hundred and twenty-five feet long, leaving an enclosure between the walls of twelve acres. "The site of this ancient dwelling-place, like all others visited, affords an extended view for many miles over the country, north, east and south." Three stone mounds formerly could be seen, near this fort, upon level ground. One of them is called the egg mound, on account of its shape. "Stone was hauled from these mounds for building foundations, fire-places and chimneys for all the houses for miles around." "From the great fortified town at the mouth of Fourteen-mile Creek to the fortification at Big Creek, a distance of about thirty miles, there appeared to be a line of antiquities, that mark the dwelling-places of intermediate colonies; and these, when pushed to extremes by an invading foe, may have sought protection in the strongholds at either end of the line."*

V. A fifth mode of defense is the one to which we now call attention. It consists in the system of "walled towns" or villages.

We call them, for the sake of convenience, "walled towns". This is a significant term. It reminds us of the "walled towns" of the ancient and mediæval times, and suggests the idea that these may have been the outgrowth of such villages as prevailed in prehistoric times. We are to notice their peculiarities. Their peculiarities were: (1.) The villages were surrounded by walls, but were permanent residences. (2.) The villages were surrounded by ditches, sometimes upon the outside of the wall and sometimes on the inside. (3.) The majority of these walled villages had some high pyramid or domiciliary mound, which answered in a rude way to the temples. (4.) There was always a lookout mound in connection with the walled village, which served the same purpose as a tower. (5.) In many of the walled villages the domiciliary mound was located in the midst of the lodge circles, the arrangement of the lodges being around a square, the chief's house being in the square. (5.) Burial mounds are frequently found in these villages. These contain the greatest store of relics, giving the idea that care for the property as well as for the remains of the dead, was one element of village life. Let us consider the different classes:

Among the hunter tribes the walled village embodied it-

*See Geological Report for 1874, p. 36.

self in the stockade, a single enclosure constituting the defense. Among the sun-worshipers the walled villages contained three enclosures, though the object of these enclosures is now unknown. Some have accounted for these enclosures by imagining that the square was designed for the residence of the chiefs, corresponding to the public square of the southern Indians. The larger circle was the residence of the people, and included the corn-fields and kitchen gardens, while the small circle was the residence of the priest or medicine man. Among the stone grave people the walled village consisted of a wall, without bastions,

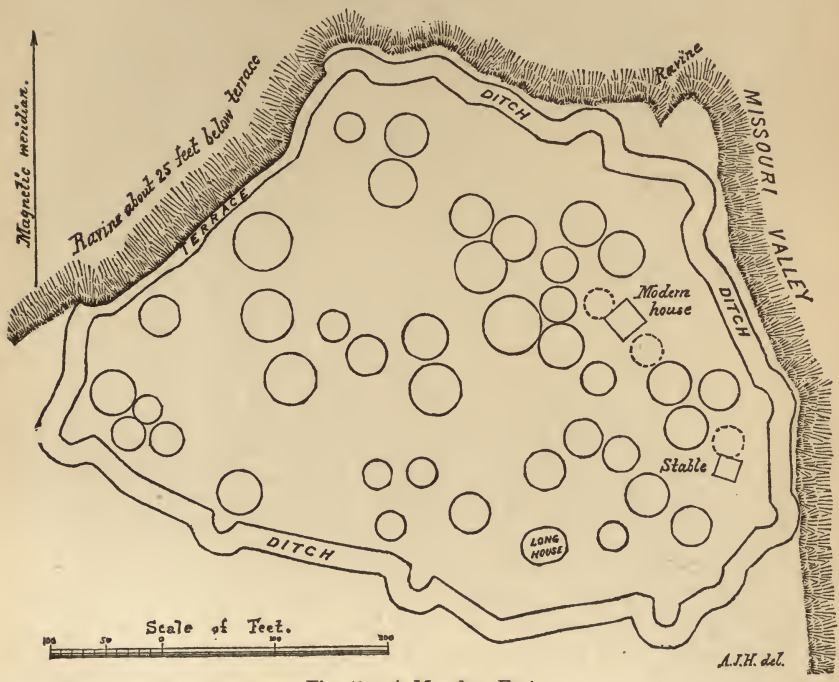


Fig. 10.—A Mandan Fort.

surrounding the village in the form of a semi-circle. Within this wall is found a series of earth-works—pyramids, cones, burial mounds, etc. These are very common in Tennessee. They may be called the mountain villages, or their builders may be called the mountain mound-builders. We give this name to them, not because they are on the mountains but because they are in a mountainous region, the Appalachian range being the only mountains in the Mississippi valley, or in other words, the only mountains in the Mound-builders' territory.

Another class of walled villages is the one found in Arkansas, among the cypress swamps. It consists of a square enclosure with an earth wall on all sides, the enclosure being filled

with lodge circles arranged in rows around an open square. In these villages there are large domiciliary mounds in the shape of pyramids, and many comical mounds. There is a resemblance between these villages and those of Tennessee; the shape of the enclosure is the main point of difference. A specimen of the fourth class of walled villages is found at Savannah, Tennessee. This is a square shaped enclosure. A peculiarity of it is the wall is built with bastions or redoubts resembling those of modern forts.

We will illustrate the subject by specimens of walled villages. (1.) The first is one common among the Indians, such as the Mandans. This consisted in a mere group of lodges arranged around a square. Some of the Mandan villages seem to have had walls with bastions. See Fig. 10. This reminds us of the

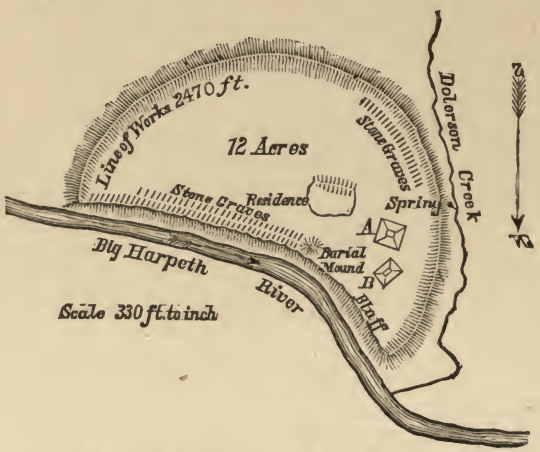


Fig. 11.—Walled Town on the Big Harpeth.

ancient village called Aztalan, in Wisconsin, which also had bastions and outworks. (2.) The villages found in the State of Tennessee. Mr. Jones says, "On the southwestern side of the Big Harpeth River, about two and a half miles from Franklin, Tennessee, is an earth-work which encloses about thirty-two acres of land. See Fig. 11. It is in the form of a crescent, which is 3,800 feet in length, situated on a perpendicular bluff forty feet above the waters edge. It was admirably chosen for defense. Within the earth-works are nine mounds, the largest, marked A, resembles a parallelogram two hundred and thirty feet in length, ten feet in breadth and sixteen feet in height. The remaining mounds vary from one hundred to twenty-five feet in diameter and one to four feet in height." The large oblong mound contained an altar with ashes and charcoal resting on it; this is near the original surface of the earth, and the mound seemed to have been erected upon the altar. Four mounds, marked B, C, D and F, also contained evi-

dence of hot fires in a red burnt stratum resembling brick in hardness.* The fort represented in the cut Fig. 11† is also situated on the Big Harpeth, about six miles from Franklin. This fort contains twelve acres. It has a crescent-shaped wall surrounding it, 2470 feet in length. There are two pyramids at one side of the enclosure. One of them (A) is sixty-five by one hundred and twelve feet at the base and eleven feet high; the other (B) is sixty by seventy feet at the base and nine feet high. This enclosure contains a large number of stone graves, arranged in rows at either side of the village. The probability is that the lodge sites of the villagers were contained within this fort and that the pyramids marked the sites of the houses of the chiefs, the burial place being also inside of the enclosure.

A village fort in the form of a circular enclosure has been described by Mr. Gates P. Thruston, as situated on the West Harpeth, about three miles from Oldtown. It is one thousand nine hundred and seventy feet in circumference, and contains about seven acres. The main pyramidal mound is one hundred and ten feet in diameter at the base and thirty-five feet at the summit. Its height is but nine feet. Dr. Jones says that "fortifications several miles in extent, inclosing two systems of mounds and numerous stone graves, lie along the Big Harpeth River, about sixteen miles below Oldtown." Within these aboriginal works, enclosing the sites of two ancient cities (villages), are found three pyramidal mounds about fifty feet in elevation, each one containing about one acre on its summit.

On the east side of the Tennessee River is the ancient work which has been described under the head of "The Civilization of the Mound-builders." This is more properly a bastioned fort rather than a walled village, and yet it contains many signs of permanent habitation. The main line measures, north and south, 1350 yards. There are the remains of redoubts at intervals of eighty yards. There are some sixteen mounds in this enclosure, the largest of which is thirty feet high and has a level platform at the top. It commands a central position and overlooks the entire works. The other mounds of the group range from twelve feet in height down to small elevations. The central mound was excavated by Mr. J. Parish Stelle, but proved to be a domiciliary mound, with no remains except a crescent-shaped hearth near the surface. A furnace mound found in the excavation was, however, more curious, as it was full of the traces of fire and many burned and charred logs.

A similar class of walled villages is the one which is found in the midst of the cypress swamps of Southern Missouri and Northern Arkansas. These swamps are very extensive, ranging

*The cut illustrative of this fort may be found in the paper on "Migrations," Fig. 7.
†The cut (Fig. 11) on the preceding page is illustrative of the fort described on this page. The reader will notice the similarity between the two.

from ten to twenty miles in width and twenty to forty in length. They all sustain a heavy growth of cypress, and so are called "cypries." Between these swamps are sandy ridges, thirty to forty miles in length and three to ten in width, leaving an elevation above the swamps of fifteen or twenty feet. Between these ridges are others which are quite narrow and low, scarcely three feet above the high water mark, with arroyos or low bottoms crossing them at intervals. It is supposed that during the time of the Mound-builders the present swamps were open water-courses, as all of their principal works were found on the ridges—never in the arroyos. The region is in great contrast with that in which the mountain villages were located, and yet the villages were very similar.

We now take a few specimens of swamp settlements as they have been described.

(1) The settlement called by Prof. W. B. Potter, the "Sandy Woods Settlement". That part of the ridge on which the village is located is somewhat isolated, and is nearly half a mile long by an eighth of a mile wide. The wall is at present two hundred and twelve feet high and seven feet wide; the ditch outside is one and one-half to three feet deep, by seven feet wide. A group of nine mounds and a large number of circular depressions, forming three sides of a parallelogram, characterize the settlement. The principal mound is rectangular, is sixteen feet high, and has a base of one hundred and twenty by two hundred and fifty feet; summit, one hundred and fifty-four by one hundred and ten feet. Next in size is the flat top conical mound, marked B. This is one hundred feet in diameter and is twenty feet high. Another mound, marked C, is one hundred feet in diameter and four feet high. The two mounds marked H, are the most interesting, as they are burial mounds. These contained a large number of skeletons and one thousand specimens of pottery. The skulls and large bones were well preserved. The lodge circles within these settlements are very numerous; many of them contained hearths. See Fig. 12. The open space in the center of the village was occupied by the burial mounds and the domicliary mounds.

(2) The second village which we shall describe is near New Madrid. Here the ridge rises about twenty-two feet above the water. A wall around the settlement is on the edge of the ridge, but the most prominent mound is on the edge of the bluff. It is eleven feet high, seventy by one hundred feet in diameter. The burial mound, seven and one half feet high, contained skeletons in layers. The layers were drawn in near the center as the mound arose. At the top they were found lying six layers deep. In another mound a hearth was exposed twelve feet square.

(3) Another village near "Mound Church" is called "Mound Group". It stands on the edge of the bluff, fifteen feet above the

water. There are two walls about four feet high. The oval space has the great mound near its center. This mound is, like the space, oval in shape; has a diameter of two hundred and seventy feet by one hundred and forty to two hundred and eleven feet, height twenty-one feet.

(4) The settlement seventeen miles north of New Madrid is the best preserved of them all. The open space is elliptical. The large mound in the center is also elliptical; has a base of two hundred and thirty feet long and from one hundred and fifteen to one hundred and thirty feet wide. The mound opposite is eleven feet high and one hundred feet in diameter. These two mounds correspond to one another in position, and probably mark the site of the ruling classes, the one having been occupied by the chief and his family and the other by the priest or medicine man, or by the assembly, so resembling the rotundas and public squares, common among southern Mound-builders.

The picture presented is that of the village community as it existed in prehistoric times, in America, and it forms a fitting close to the article upon the Mound-builders' defenses. We have seen that there were five different methods of defense: First, the Signal Station; second, the Stockade Fort; third, the Hill Fort; fourth, the Stone Fort; fifth, the Village Fort. The village fort is, however, the most interesting of all.

The peculiarities which we recognize as common to these walled villages are as follows:

(1.) The villages all contain a large number of hut rings, also burial mounds and lookout mounds, and generally one or two large pyramidal mounds. These features are found in the Tennessee villages, though the hut rings are not so plain as in the Arkansas villages. The difference between them is that the Tennessee mounds contain stone graves, while the mounds in Arkansas contain large quantities of pottery, but no stone cists.

(2.) The open space, in which there are no lodge circles, is always found in the center of the village. This space is sometimes elliptical and sometimes square. This answers to the public square of the Cherokees, and conveys the idea that the walled villages of the southern tribes were all alike.

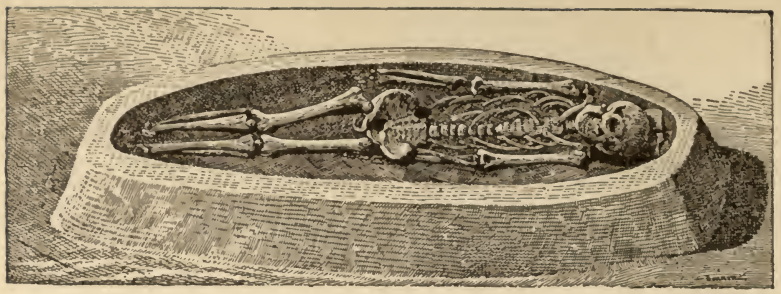
(3.) The arrangement of the villages. The settlement is generally on the edge of the swamp, and covers an area from two hundred to four hundred feet in width and from six hundred to eight hundred feet in length, filled with lodge circles or hut rings, burial mounds and domiciliary mounds. The lodges are generally in rows, each hut ring being of the same size. The average depth of the depressions is about two feet, the diameter thirty feet; the centers are from fifty to sixty-five feet apart. In the hut rings hearths of burnt clay are found at a depth of about fifteen inches, having a diameter of two to three feet.

(4.) There was always a pyramidal mound in the public square.

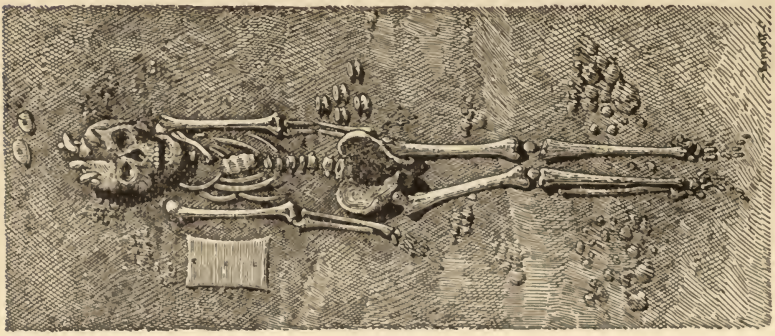
This was probably the chief's residence. This mound is higher than all others, and overlooks the entire settlement, the top being frequently sixteen feet to twenty feet above the level. The size varies; in one case it is 120x250 feet, with a summit of 154x110 feet; in another case 210x270 feet at the base and 110 x165 at the summit. There are sometimes two mounds, one rectangular in shape and the other oval. In a few cases the rectangular mound is surrounded by a series of conical mounds. The burial mounds are within the confines of these settlements. These vary in height from four feet to seven and a half, and from forty to one hundred and twenty feet in diameter. They contain many specimens of pottery, a large number of human bodies. The bodies are sometimes in layers—the lower about one foot below the surface of the ground and the other within a foot of the summit of the mound, with six inches of dry earth between them. Near the heads, pottery flasks and bottles are found, and near the middle of the skeleton bowls and flat dishes. The number of bodies varies; sometimes as high as one hundred or two hundred are found in a single mound. From eight hundred to a thousend specimens have also been found in a single mound.

(5) The relics of the Mound-builders' handiwork found in these settlements are articles for household use or ornament and agricultural tools, with a noticeable absence of the implements of war or the chase. Pottery occurs in the greatest abundance, and always in the burial mounds. Beautiful specimens of spades and hoes, of white and yellow chert, well polished, showing the effects of use, are obtained from the open fields. Several engraved shells, one of them bearing the figure of a spider, the others of human figures, have been found.

(6) The ditch accompanying the villages is generally on the outside. It was probably used for conveying water around the settlement, as well as for defense. This feature reminds us of the fish preserves, and wide ditches which surround the groups of pyramids in the Gulf States. The villages were, however, defended by walls which were thrown up inside of the ditches. In this respect they differ from those of the Gulf States. The walled villages were evidently erected by an agricultural people —those in Ohio by sun-worshipers, and those in Tennessee and Arkansas by pottery makers. The Pyramid-builders do not seem to have built such walled villages, but depended upon pyramids for defense.



SKELETON IN ALTAR, PORTER MOUND.



SKELETON WITH SPOOL ORNAMENTS.

DEPOSIT OF FLINT RELICS.

RECENT FINDS IN OHIO BY W. K. MOOREHEAD.

The altar with skeleton was found in Brown County, Ohio. The altar measures seven feet by nine. A copper mask eight inches long and five wide covered the forehead of the skeleton. The leaf-shaped implements were found in Hopewell Mound. This mound contained deposits of copper aggregating 235 pieces, carved into squares and semi-circles, suastikas and images of birds and fishes; a copper celt which weighed 38 pounds, also anklets, bracelets, combs and pendants, many finely carved bones, covered with traceries, which show a high degree of manual skill. The skeleton with the spool ornaments was from the Porter mound, not far from the Hopewell farm.

CHAPTER XII.

RELIGIOUS WORKS OF THE MOUND-BUILDERS.

NORTHERN DISTRICT.

We have undertaken in this chapter to give a map of the religion of the Mound-builders. To some it may seem to be a Utopian scheme, only based upon speculation, but we maintain that the effort is not only useful in giving us more definite conceptions of the different phases of that religion, but in reality is correct in its classification. The following particulars will show this: 1. The religious systems in the map correspond to the ethnic divisions of the Mound-builders' territory which we have already made. These divisions indicate that there were different races occupying different districts, and the present view not only confirms this, but indicates that the races had systems of religion which were distinct and different from one another.

2. The classification of the religious system corresponds with that of the works and relics, and so proves that the religious cult had much to do in giving them their special characteristics.

3. The map shows that there was a progress in the religious cult which corresponded to the other lines of progress made by the Mound-builders. The different stages of progress may be recognized in each district as we pass over their territory. The northern districts were evidently occupied by totemistic hunter tribes; their works consist mainly of burial mounds, animal effigies and the remains of stockades of forts and villages. The middle districts by a class of agriculturists, who were evidently sun worshipers; their works consist of three classes—pyramids, sacred enclosures and large mounds which contain chambered tombs. The southern districts by sedentary tribes, who were pyramid-builders and sun worshipers, and who were idolaters.

4. The different phases of nature worship given by this map have been recognized among historic races. We maintain that they really originated among prehistoric races. Some of these are rude and primitive, but they wonderfully illustrate the systems that prevailed in ancient times, and help us to understand the origin and growth of the different historic faiths. They seem to be mere superstitions and unregulated fancies of rude savages; but in them we find the beginnings of that extensive system which grew into so many elaborate faiths and forms. We are thus brought to the threshold of a great mystery and into the midst of a deep problem, the whole field of comparative religions having

REESE LIBRARY

suddenly opened before our vision, and the relation of man's religion to his environment rising like a mountain in the background.

5. There was evidently a supra-naturalism among the native races, which was dim and shadowy, but as, among the Mound-builders, it embodied itself in the relics and in the earth-works it becomes an object of study, and so we may define each phase by referring to these material forms. We do not claim that any one system was exclusive of all others, for the systems are often mingled together; yet there was such a predominance of one over the other that we may take the map as a fair picture of the different systems. The complications are, to be sure, numerous and the tokens varied, but the geographical divisions separate them sufficiently and we may actually decide what the characteristic of each cult was.

6. The religious sentiment was strong among the native races of America. It seems to have manifested itself in different ways in different localities, showing that it was everywhere subject to the influence of climate, soil, scenery, and physical surroundings. It largely partook of the character of nature worship, but obeyed the law of natural development. If we take a map of the continent and draw lines across it, somewhat corresponding to the lines of latitude, we will find that this map not only represents the different climates and occupations, but the religions of the aborigines. What is more, these different religions will embrace nearly all of those systems which have been ascribed to nature worship: Shamanism prevailing among the ice fields of the north; animism having its chief abode in the forest belt; totemism, its chief sway among the hunter tribes that inhabited the country near the chain of the great lakes; serpent worship in the middle district; sun worship among the southern tribes, and an advanced stage of the nature worship among the civilized races of the southwest.

The divisions in the map correspond with the divisions of various Indian tribes or races, which are known to have inhabited the country at the time of the opening of history, thus showing that there were ethnic causes that produced the different systems of religion among them. There is a wonderful correspondence between the systems which prevailed in the modern Indian and the mound-building period, showing that the native races were affected by their surroundings.

7. In reference to the geography of the religion of the Mound-builders, we conclude that the key is found in the physical environment. If among them there was a system illustrating the stages through which religion passes on its way to the higher historic faiths, this corresponded to the social status, grades of progress and geographical districts among the Mound-builders, and is to be studied in the material relics and tokens which are

to be found in the different districts. The picture which is presented by the larger map is concentrated into a smaller compass, the different forms of nature worship having embodied themselves in the works and relics of this mysterious people. Here then we have a schedule by which we may classify the different systems as they appear before us. Recognizing the various aboriginal religions in the different districts, we find in them the various phases of nature worship, and so can follow that worship through its different stages.

The order of succession in the line of growth, would be about as follows: We find a trace of animism predominating among the wild tribes, which consisted in giving a soul to everything, but this prevailing among the Mound-builders led them to erect many chambered mounds and to take great care in depositing relics in them.

The same animal worship that led the native tribes to the recog-

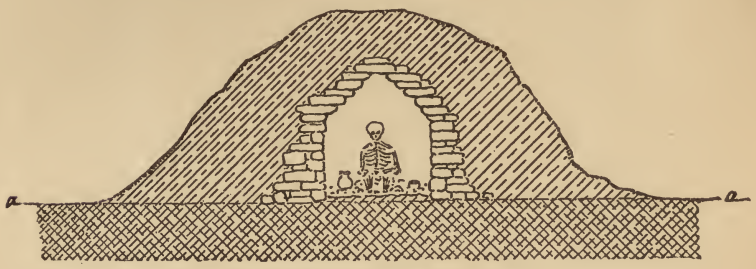


Fig. 1—Mound on the Iowa River.

nition of the animals as their divinities led the Mound-builders to erect animal effigies on the soil. The system of sun worship which led the agriculturist to regard the sun as his great divinity would lead the Mound-builders to embody the sun symbols in their works. The system which led the civilized races to erect vast pyramids of stones and consecrate shrines to the sun divinity on the summit, induced the Mound-builders to erect their earth-works in the shape of the pyramids and place images upon the summits. These different phases of nature worship only illustrate the law of parallel development, a law which prevailed in prehistoric tribes as well as in historic. We are, however, to remember that there are no hard and fast lines by which these systems were separated, for they were blended together everywhere, the only difference being that one system was more prominent than the other. We take the different districts and learn from the works and relics that these embodied the religions of the Mound-builders, but at the same time see the shading of one into the other, and avoid making the divisions arbitrary.

I. Let us take the system of animism. This, in the larger field and among the living races, was the religion of the savages and belonged to the lowest stages of human development. Ani-

mism prevailed among the Mound-builders. Among them it was also the lowest form of religion. Remains of it are, to be sure, occasionally seen among the higher stages, but it was, nevertheless, a superstition of the savages. The essence of animism consisted in ascribing a soul to everything, and making the soul of material things about as important as the human soul. The savage, when he buried the body of the dead, deposited the various belongings with the body, for he thought that the spirit would use the weapons and relics in the land of the shades. With the Mound-builders the same superstition prevailed, but with them it was often the custom to break the relics in order to let out the soul. It was to the same superstition that chambers and vaults, resembling the houses and tents of the chiefs, were left in the center of the mounds and that the bodies were placed inside these vaults. The thought was that the spirit remained; every individual having a double lodge, one occupied before death, the other to remain inhabited after death.

We give a series of cuts which illustrate the points referred

Fig. 2.—Mound near East Dubuque.

to. It will be noticed that in each of these the mound contains a chamber, and in the chamber are skeletons, and with the skeletons are relics which were used in the life-time; the idea being that the soul needed the same after death. The first figure (see Fig. 1) illustrates a mound situated on the Iowa River, a region where hunter races are known to have lived; in this mound is a stone vault having the shape of an arch, and in the vault a single skeleton, sitting, with a pottery vessel by its side. The next (see Figs. 2 and 4) represent a mound situated on a high bluff on the Mississippi River in East Dubuque. In this mound was a cell divided into three apartments; in the central apartment were eight skeletons sitting in a circle, while in the center of the circle was a drinking vessel made of a sea shell; the other cells are said to have contained chocolate-colored dust, which had a very offensive odor. The whole chamber was covered with a layer of poles or logs, above which were several layers of cement, made partly of lime. Another figure (see Fig. 3) represents a burial mound containing a chamber, in the bottom of which were several skeletons, a top covering of sand, a layer of clay, a layer of hard clay mixed with ashes, and a layer of mortar over the bones. This mound was in

Crawford County, Wisconsin, in the region of the effigy mounds. Another figure (see Fig. 5) represents a chambered mound in Missouri. The vault in this mound was rectangular, and was built and was laid up with stones very much like a modern building, but has a passage-way at the side which reminds us of the European cists or dolmens. It is a remarkable specimen of the handiwork of the Mound-builders. Whether these different chambers or vaults can be regarded as representing the houses of the Mound-builders is a question; but the fact that they are in the burial mounds, and so many of them contain relics and remains, would indicate that such was the case.

We have said that burial mounds of hunter tribes were generally stratified. We find, however, stratified mounds containing pottery vessels near the heads, as though there was an association of the spirit with the vessel. We find also groups of lodge circles on the sites of villages, but within the circles are bodies and relics, giving the idea that they were buried within the lodge. It was the custom of certain tribes to bury the body on the very spot where life had departed. The tent and its furniture and

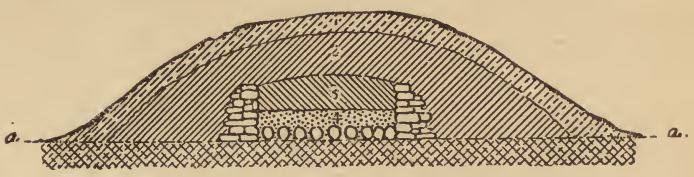


Fig. 3.—Mound in Crawford County, Wisconsin.

equipments were either burned or removed, but the body remained where it was. May we not ascribe these lodge circles to the same superstition? It was the custom, also, of other tribes to bury the body in the very attitude which it assumed in "*articulo mortis*". May not this explain the peculiar attitude of some of the bodies found in the tops of the mounds, where the face rests upon the hands, the body on the sides with the knees drawn to the chin? It was the custom of the Dakota tribes to remove the sod and expose the soil for the sacred rites of certain feasts, as the Master of Life was supposed to dwell in the soil. The sacred pipes and other emblems were placed near the fresh earth, as if to be offered to the spirit which dwelt there. May not this same superstition, that the soul or spirit of life was in the soil, account for the burial customs which were embodied in the mound? The same punctillious care over the details of burial was observed in prehistoric times that is now seen in the sacred ceremonies of the modern historic tribes. We cannot dwell upon this subject, but, doubtless, if we understood the customs of the Mound-builders better, we should find that there was not a single item which did not have its special significance. Great variety is, to be sure, manifested in the burial mounds.

Some contain relics, the very relics which had been used during the life of the deceased; the bodies of children being covered with bone beads, the very beads that had been worn as necklaces and wristlets; the bodies of warriors being attended by the arrows, axes, spear heads, badges, gorgets and ornaments which they had carried through life; the bodies of chiefs being attended with pipes, spool ornaments, pearl beads and many other precious relics, which were their personal belongings. Vases filled with sweetmeats were sometimes buried near the children; pottery vessels and domestic utensils near the heads of females, and brooding ornaments or bird-shaped relics, used as the signs of maternity. Even tender fabrics, such as the cloth woven from hemp, feather robes and coverings, made from the hair of the rabbit, delicate needles made from bone and from copper, spool ornaments made from wood and covered with copper and sometimes with silver; in fact, all the articles that made up the toilet of women or furnished equipments for men, or were playthings of children, were deposited at times in the mounds, not as offerings to the sun divinity, nor the serpent or fire, but as gifts or possessions to which the spirit of the dead had a right.

Fig. 4.—Skeletons at East Dubuque.

II. We now come to the second form of nature worship. This prevailed chiefly among the Mound-builders, though we sometimes recognize it among living tribes. It is the system of animal worship—the normal cult of the hunter tribes. According to this system, the animals were frequently regarded as divinities. They were the ancestors of the clans, as well as their protectors, and gave their names to the clans. This system prevailed among the northern and eastern tribes, such as the Iroquois, the Algonquins, Chippeways or Objibways, and, to a certain extent, the Dakotas, though among the latter it was greatly modified. It prevailed especially through the northern districts and along the chain of great lakes. Its peculiarity was that the people were not permitted to eat the flesh of the animal whose emblem they bore, nor were they permitted even to marry into the clan of the same animal name; a most remarkable system when we consider its effect upon the details of society and its influence in the tribal organization. The same system prevailed on the northwest

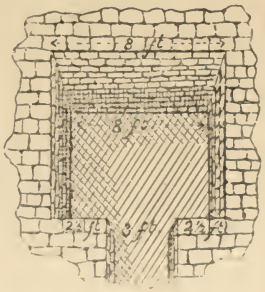


Fig. 5.—Chambered Mound.

coast, but it was here modified by the presence of human images carved into genealogical trees, with the thunder-bird generally surmounting the column.

This system prevailed among the Mound-builders, especially in the northern districts. It was embodied in the effigies which are so numerous in the State of Wisconsin, but was also exercised by those people who have left so many animal figures made in effigy from standing stones which are found in Dakota. Descriptions of these effigies have been given by the author in the book on "Emblematic Mounds." Other specimens have been discovered since the volume was published. We maintain that there were three specific uses made of these effigies—the same uses which may be recognized in the totem posts of the northwest coast. They are as follows:

1. The perpetuity of the clan name. In the totem posts the clan name was mingled with the family history, but generally surmounting the column, the genealogical record of the family

Fig. 6.—Totems in Wisconsin.

being contained in the elaborate carvings found below. They might be called ancestor posts, for the name or image of each ancestor was given, a great effort being made to extend the genealogical line as far as possible. This same use of animal figures as tribal or clan signs, designed to represent the clan names, may be recognized in some of the old deeds which were given by the Iroquois to the whites.* Here the bear, the turkey and the wolf are drawn on paper to signify the clan emblem of the chief. The same custom has been recognized in the emblematic mounds, with this difference: instead of being written on paper or carved in wood, in this case the totems were moulded into earth-works; massive effigies of eagles, swallows, wolves, squirrels, bears, panthers, turtles, coons, buffaloes and other animals, and having been placed upon the soil to mark the habitat of the clans. They served the purpose, because they were on the hill-tops as well as in the valleys, and marked not only the sites of villages, but the game drives, the sacrificial places, the dance grounds and council houses of the clans. See Fig. 6.

2. The protective power of the totems is to be noticed. On the northwest coast the houses are sometimes furnished with

*See Documentary History of New York, Vol. II.

figures of whales, serpents and other animals. In some cases the entrance to the house is through the body of a fish; other houses have the image of the thunder bird, with spread wings, placed over the doorway; the entrance of the house being under the body and between the wings. The same custom was common among the Mandans and other tribes of the prairies; they painted upon the outsides of their tents the figures of a deer or elk, making the opening to the tent through the body of the animal. We have noticed also among the effigy mounds that figures of the squirrels, panthers and wolves were placed at the entrance-way to the villages, so placed as to give the idea that they were designed to protect the villages. In all such cases they were the clan emblems. We have also noticed that the clan emblems were placed near the game drives, as if the protection of the clan divinity was invoked by the hunter. Sometimes the clan emblem would be placed at a distance on a hilltop above the village, giving the idea that there was an overshadowing presence. A favorite custom was to seize upon some cliff, or ridge, or knob of land which had a resemblance to the clan emblem and there place the effigy, as if there were a double protection in this: animism and totemism conspiring to strengthen the fancy. See Figs. 7 and 10.

3. The mythologic character of the totems is to be noticed. On the northwest coast the great myth bearers are the totem posts. We learn from Mr. James Deans* that the myths of the people were carved into the vacant spaces upon the posts, and that it was the ambition of the people to perpetuate as many myths as possible.

Fig. 7—Turtle Totem.

The hideous masks which are so common in the same region were also designed to be myth bearers. These masks served the same purpose as buffalo-heads and elk-horns did among the Dakotas. They helped to carry out the semblances of the animals which were assumed by dancers at the great feasts, the buffalo dance and the elk dance being characterized by imitations of the attitudes of the animals. The effigies were also myth bearers. Groups of effigies are found which contain all the animals that were native to the region, closely associated with human figures (see Fig. 8), the effigies in their attitudes and relative positions giving the idea that there was a myth contained in them.

4. The totems also served a part in the pictographs. One fact illustrates this: The Osages have a secret order in which traditions are preserved by symbols tatooed upon the throat and chest.† One of these traditionary pictographs is as follows: At the top

*American Antiquarian. Article by James Deans, Vol. XIII., No. IV.
†Sixth Annual Report of Bureau of Ethnology, page 378, "Osage Traditions," by Rev. J. O. Dorsey.

we see a tree near a river, called the tree of life; just under the river we see a large star, at the left the morning star, and next are six stars, then the evening star; beneath these are seven stars, or the pleides; below these the moon on the left, the sun on the right, between them a peace pipe and a hatchet; below these are the four upper worlds, represented by four parallel lines, a bird is seen hovering over the four worlds. The object of the tradition or chart was to show how the people ascended from the lower worlds and obtained human souls when they had long been in the body of birds and animals. The Osages say: "We do not believe that our ancestors were really animals or birds; these things are only symbols of something higher." Mr. Dorsey also says: "The Iowas have social divisions and personal names of mythical persons and sacred songs, but these are in the Winnebago language." He says: "Aside from traditions even the taboos and the names of the gentes and the phratries are objects of mysterious reverence, and such names are never used in ordinary conversation." We take it for granted that the totems of the Mound-builders were also as thoroughly subjects of reverence and that there was much secrecy in reference to them. There were probably secret societies and "mysteries" among the Mound-builders, and it would require initiation on our part to understand the symbols which have perpetuated the myths and traditions as much as if they were hieroglyphics and we were without the key. The subject of totemism is very complicated, but was prevalent in prehistoric times as one of the wide-spread systems of religion.

Fig. 8.—Myth Bearer of the Dakotas.

Fig. 9—Myth Bearer from a Cave in Wisconsin.

5. Another phase of totemism was that which connected itself with various objects of nature—trees, rocks, caves, rivers. It was thought that invisible spirits haunted every dark and shadowy place. The caves were their chief abode; the cliffs were also filled with an invisible presence. Every rock or tree of an unusual shape was the abode of a spirit, especially if there was any resemblance in the shape to any human or animal form. It was owing to this superstition, that gave a soul to every thing,

that so many double images are found in the Mound-builders' territory. The image of the serpent, of the lizard, of the turtle, was recognized in the bluff or rock or island or stream; and the mound resembling the same creature was placed above the bluff to show that the resemblance had been recognized. Totemism, then, was not confined to the savages who roamed through the dark forest of the North, nor to those Northern tribes which made their abode upon the prairies, and left traces of themselves in the idols and images and foot tracks and inscriptions, which are now such objects of wonder, but it extended far to the southward, and was mingled with the more advanced systems which prevailed in this region.

Fig. 10.—Alligator Mound in Ohio.

This was totemism. We conclude that it bore an important part in the Mound-builder's life. It was very subtle and obscure, yet if we recognize it among the living tribes we may also recognize it among those who have passed away.

6. Under the head of totemistic symbols we shall place those remarkable works, the great serpent and alligator mounds. These closely correspond to the shape of the cliff or hill on which they are placed. They must be regarded as sacred or religious works, as they probably had a mythologic significance. The alligator mound is situated upon a high and beautifully rounded spot of land, which projects boldly into the beautiful valley of the Raccoon Creek. The hill is 150 or 200 feet high. It is so regular as almost to induce the belief that it has been artificially rounded. It commands a view of the valley for eight or ten miles, and is by far the most conspicuous point within that limit. Immediately opposite, and less than a half mile distant, is a

large and beautiful circular work; to the right, three-fourths of a mile distant, is a fortified hill, and upon the opposite side of the valley is another intrenched hill. The great circles at Newark, which we have designated as village inclosures, are but a few miles away and would be distinctly visible were there no intervening forest. Squier and Davis say: "The effigy is called the alligator, though it closely resembles the lizard. The total length is about 250 feet, breadth of body 40 feet, length of legs 36 feet. The paws are broader than the legs, as if the spread of the toes had been imitated. The head, shoulders and rump are elevated into knobs and so made prominent. Near the effigy is a circular mound covered with stones, which have been much burned. This has been denominated an altar. Leading to it from the top of the effigy is a graded way ten feet broad. It seems more than possible that this singular effigy had its origin in the superstition of its makers. It was perhaps the high place where sacrifices were made on extraordinary occasions, and where the ancient people gathered to celebrate the rites of their unknown worship. The valley which it overlooks abounds in traces of a remote people and seems to have been one of the centers of ancient population."* See Fig. 10.

In reference to the altars so called, we may say: "One is to be distinctly observed in the inclosure connected with the great serpent and another in connection with the cross near Tarlton, and still another in connection with the bird effigy at Newark." This bird effigy is also worthy of notice; it was in the centre of the great circle, and seems to have been erected for religious purposes, like the great circles of England, and in the squares of Peru and Mexico, enclosures within which were erected the shrines of the gods of the ancient worship and altars of ancient religion. These may have been spots consecrated by tradition, or rendered remarkable as the scene of some extraordinary event, invested with reverence and regarded with superstition; tabooed to the multitude, but full of significance to the priesthood. They may have embraced consecrated graves, and guarded as they were by animal totems, have been places where mysterious rites were practiced in honor of the great totemistic divinity.

III. The third form of nature worship we shall mention, is the one which consisted in the use of fire. It might be called fire worship, although it has more of the nature of a superstition than of worship. This custom, of using fire as an aid to devotion, was not peculiar to the Mound-builders, for it was common in all parts of the world; the suttee burning of India being the most noted. In Europe cremation or burial in fire was a custom peculiar to the bronze age, and indicated an advanced stage of progress; the relics which are found in the fire-beds being

*Ancient Monuments, Page 101.

REESE LIBRARY OF THE UNIVERSITY

chiefly of bronze and many of them highly wrought. In this country the fire cult was, perhaps, peculiar to the copper age; at least, the larger portion of the relics which are found in the fire beds are copper. As to the extent of this cult, we may say it was prevalent among the native tribes both of the Mississippi Valley and of the far West, and, in some cases, appeared upon the northwest coast. There are instances where cremation or burning of human bodies was practiced which, in many of its features resembled the suttee burning. The custom of keeping a perpetual fire was one phase of this fire cult. This seems to have been general among the tribes of the Mississippi Valley, so well as among the civilized races of the southwest. It was a superstition of the Aztecs, that if the fire went out in the temple, the nation ceased to exist. The ceremony of creating new fire was the most sacred and important event among them. Charlevoix says that fire among the Muscogees was kept burning in honor of the sun. It was fed with billets or sticks of wood so arranged as to radiate from a common center, like the spokes of a wheel.* Temples were erected for this purpose, and in them the bones of the dead chieftans were also kept. Tonti says of the Taensas: "The temple was, like the cabin of the chief, about forty feet square; the wall fourteen feet high; the roof doom shaped; within it an altar, and the fire was kept up by the old priests night and day. The temples were quite common throughout the region known as Florida, extending from Arkansas to the southern point of the Peninsula. They were found in many of the villages, and great care was exercised that the fire within them should be perpetual. The temples finally disappear, and, in their stead, we find the hot house or rotunda or council houses, such as are known to the Cherokees. The time came when a temple was no longer spoken of, though the rotunda embodied something of its sacredness. It was within this rotunda that the first fire was kindled; and it was here, under the care of the priests, that the perpetual fire was kept burning. A very interesting rite was observed annually, when all fires of the tribes were put out and kindled anew by the fire generator. This took place on the occasion of the feast of the first fruits on the third day. On that day, as the sun declined, universal silence reigned among the people. The chief priests then took a dry piece of wood, and, with the fire generator, whirled it rapidly. The wood soon began to smoke; the fire was collected in an earthen dish and taken to the altar. Its appearance brought joy to the hearts of the people. The women arranged themselves around the public square, where the altar was, each receiving a portion of the new and pure flame. They then prepared, in the best manner, the new corn and fruits, and made a feast in the square, in

*Charlevoix Letters, page 113.

which the people were assembled and with which the men regaled themselves."*

As to the prevalence of the fire cult among the Mound-builders, it was not confined to the southern districts, where the rotundas were and where sun worship was so prominent. At least one stage of this fire cult, that which consisted in cremation of the bodies, appeared in the regions north of the Ohio River and was quite common.

We shall see the extent of this custom if we draw a line diagonally from the region about Davenport, Iowa, through Illinois, Indiana, Southern Ohio, West Virginia and North Carolina. We shall find that the line strikes the majority of the fire beds and altar mounds. What is remarkable, also, along this line are found those relics which have been associated with the fire cult of Ohio, many of them having been placed upon the altars and offered either to the sun divinity or to the fire. Among these relics we may mention as chief the so-called Mound-builder pipe. This was a pipe with a curved base and a carved bowl, the bowl being an imitation of some animal native to the region. The pipes are very numerous in the vicinity of Davenport, Iowa. The animals imitated are very nearly the same as those represented in the Ohio pipes—the lizard, the turtle, the toad, the howling wolf, the squirrel, ground-hog and bird. One pipe has the shape of the serpent wound about the bowl, an exact counterpart of the serpent pipe which was found upon the altar in Clarke's Works in Southern Ohio, Similar pipes, carved in imitation of animals—badgers, toads and birds—have also been found upon the Illinois River, in Cass County, and upon the White River, in Indiana, showing that the people who occupied the stations were acquainted with the same animals and accustomed to use the same kind of pipe. The Davenport pipes are not so skillfully wrought as the Ohio pipes, but have the same general pattern.

They were not all of them found in the fire beds, for many of them were discovered in mounds where the fire had gone out. These mounds are situated along the banks of the Mississippi River, from the vicinity of Muscatine through Toolsboro, Moline, Rock Island and Davenport, the most remarkable specimens having been found on the Cook farm, just south of the latter city. There were fire beds and altars in this group, but even here, as in the case of other mounds where there was no fire, the pipes were placed near the bones, which were still well preserved, and none of them showed traces of fire.

Let us here notice the difference between the tokens in the two sections. 1. In Ohio nearly all Mound-builder pipes, including the finely wrought serpent pipes and the other animal pipes, had been placed upon the altar and subjected to the

*Journal of American Folk-Lore, Vol. IV, No. XIV. Social Organization of The Siveau, by J. O. Dorsey, page 215 See map in Chapter II.

action of fire and so badly burned that they were broken into fragments. In western mounds they were unbroken. 2. Another difference is noticeable. While there were as many copper relics in the Davenport mounds, as in the Ohio mounds, they were mainly copper axes, many of which were wrapped in cloth and placed with the bodies. Fig. 11. Farquharson calls them ceremonial axes. There were no signs of use in them. They varied in size and shape, some of them being flat, others flat on one side, convex on other; still others convex on both sides. The cloth in which they were wrapped was well preserved by action of the copper; it was made of hemp and resembled burlap. In the Ohio mounds no such copper axes have been found. Copper beads and copper chisels are numerous, however, and beads and pendants are as common as in Davenport. 3. The characteristic

Fig. 11.—Copper Axes and Pottery Vessels from Toolsboro.

relic of the altar mounds of Ohio is the copper spool ornament. In the Davenport mound there were very few spool ornaments, but awls and needles were quite numerous; copper beads and pendants were common. Many of these were found in various localities, both on the Scioto River and in the Turner group. 4. Another point of difference between the two localities is the shape of the altars. Those in the Davenport mounds are never paved as in the Ohio mounds, the altars in the Davenport mounds being merely round heaps of stones or columns. Near these the bodies were placed, but the relics were beside the bodies and not upon the altars. In one case a few long shinbones were crossed upon the top of the altar and others found leaning against the side of the stones, but no relics. The bodies do not seem to be cremated, but buried in the fire. The relics, including pipes, copper axes, copper awls, and obsidian arrows, were placed at the side or head of the body, but were rarely burned.

5. Another point of difference is that burials and cremations

in Ohio were made before the mound was erected, while in the Davenport mounds, if there was any cremating, it took place at the time of burial, and the fire was smothered in the process of mound building. Prof. Putnam explored a burial mound on the Scioto River, which was situated in the great circle near the eastern corner of the great square. It was 160 feet long, 90 feet wide and 10 feet high. It contained a dozen burial chambers made from logs. In these chambers the bodies were placed evidently wrapped in garments. With the bodies were buried various objects, such as copper-plates, ear-rings, shell beads and flint knives, and on the breast of one skeleton was a thin copper plate or ornament. In some of the chambers there were evidences of fire as if the bodies had been burned on the spot. Prof. Putnam's opinion is that the burials and cremations were made before the mound was erected, several burnings having occurred in one spot. The mound was erected over all, and was finished with a covering of gravel and with a border of loose

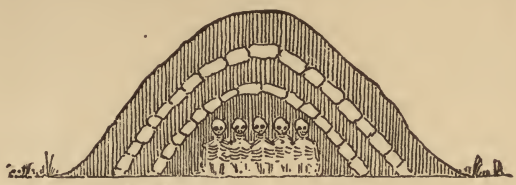


Fig. 12—Mound near Davenport.

stones. This was the usual manner of erecting mounds among the fire worshipers. Squier and Davis in 1840 dug into the same mound and found a skeleton, with a copper plate and a pipe. They also found in other mounds altars in which bodies had been burned, but the ashes had been removed, a deposit of the ashes being found at one side of the altar. 6. The intense heat to which the relics were subjected in the Ohio mounds as compared to the partial burning in the Iowa mounds is to be noticed. Prof. Putnam says that in the Turner group the fire was intense, and the iron masses were exposed to great heat on the altar and were more or less oxydized. Squier and Davis say that the copper relics found in the Ohio altars were often fused together, and the pipes of the Mound-builders were all of them broken.

The question here arises, who were these fire-worshippers? Were they the Cherokees, who survive in the mountains of Tennessee? or were they the Dakotas, who so lately roam the prairies in the far West? or were they some unknown people? Our answer to this question is, that no particular tribe can be said to represent the fire worshipers, for this cult prevailed among nearly all the different classes of Mound-builders. Mounds containing fire beds have been found in Wisconsin, Iowa, Illinois, Indiana, Ohio, West Virginia, East Tennessee, North Carolina, and the

Gulf States. In Wisconsin the fire beds are without relics; in Iowa they contain relics, but they are unburned; in Ohio they contain many relics which seem to have been thrown upon the altars as offerings; in East Tennessee there are mounds which contain fire beds that resemble those of Ohio; in West Tennessee the mounds contain traces of fire, but no altars or fire beds. The relics are unburned. These latter mounds are said to have been built in the shape of cones, the cists containing the bodies being arranged in a circle about a central space, but each tier being drawn in so as to make a cone. The fire was in the center of the circle; outside the circle, near the heads, were pottery vessels, which made a circle of themselves, the whole arrangement indicating that there was not only a fire cult here, but that it was associated with sun worship, the superstition about the soul being embodied in the pottery vessels, the three forms of nature worship being embodied together in one mound.

We call attention to the cuts which represent the fire cult of the different districts. Fig 12 represents a mound on the Cook farm near Davenport, one of the group from which so many relics were taken. This mound contained no chamber, but in its place were two strata of limestone; but over these a series of skulls so arranged as to form a crescent, around each skull was a circle of stones. See Fig. 13. With the skeletons in the mound were two copper axes, two hemispheres of copper and one of silver, and several arrows. In an adjoining mound were two skeletons surrounded by a circle of red stones; the skeletons were under a layer of ashes and with them were several copper axes, copper beads, two carved stone pipes, one in the shape of a ground hog. The difference in the mounds will be noticed. In the latter mounds there were indications of fire worship and sun worship. Fig. 11 represents the vase and copper axes taken from the mound at Toolsboro. They exhibit an advanced stage of art and seem to indicate that the Iowa Mound builders did not fall much behind the Ohio Mound-builders in this respect.

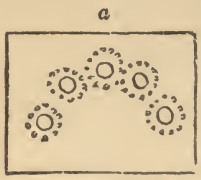


Fig. 13.—Crescent and Circle.

The Moquis practice a modified form of fire worship. No other living tribe preserves the cult to the same degree, and yet there is no evidence that the Moquis were ever Mound-builders. Two theories might be entertained; one, that there was a progress in the fire worship; another, that there was a decline, and yet there is no surviving tribe in which we recognize the fire cult of the ancient times.

We can say that while the tokens of the fire worshipers, such as fire beds, copper relics and Mound-builders' pipes, are found scattered as far as the effigies on the north and the pyramids at the south, these three classes of tokens, one indicating ani-

mal worship, the other fire worship, and the third sun worship, are crowded into the single State of Illinois, and constitute the tokens of the middle Mississippi district. We notice also that the relics indicate three different modes of life or occupations. Among the effigy mounds are many copper relics, but mainly spear-heads, arrow-heads, chisels, knives, such as would be used by hunters. The relics in the fire beds and burial grounds near Davenport are axes, awls and needles; no copper spear-heads or knives. The relics south of these fire-beds, especially those near the Cahokia mound, are mainly agricultural tools—spades, hoes, picks. The pottery of the three localities are in contrast, showing that three different stages of art and different domestic tastes in the three localities. The Mound-builder pipes are not found either among the effigies or pyramids, and seem to be confined to this narrow belt between the two.

Still the fire cult must have been early in the Mound-builder period. We notice both in the Mississippi Valley and upon the Ohio River that the fire beds and altars are at the bottom of the mounds. In very many of the mounds there are layers of bodies, some of which were recumbent, others in various postures, but either without relics or having relics of a ruder or more modern character. These may have been deposited by various Indian tribes, such as the Sacs and Foxes, Pottawattamies and Illinois. Mound-builder pipes, copper axes and other relics are always found as low down as the surface of the soil. They are not always in fire beds, but frequently there will be a hard floor and a saucer-like basin below the bodies, and above them piles of wood or logs, conveying the idea that the intention was to cremate the body, but the fire had gone out before the wood had been burned. The descriptions given by all the explorers of the mounds of this vicinity are always to this effect.*

IV. The prevalence of the moon cult will next be considered. The moon cult was evidently associated with sun-worship, and prevailed in the district where the works of the sun-worshippers are so numerous, namely: Southern Ohio. The evidences of this are as follows: 1. In this district we find earth-works, which seem to be symbolical of the moon; their shape, location and probable use show this. They are crescent shape, but are sometimes grouped around circles, and were probably used in connection with dances and feasts, which were sacred to the moon. We take for illustration the works which are called the Junction Group, which is described by Squier and Davis. This group is situated on Paint Creek,, two and one half miles southwest of

*See descriptions by Rev. G. A. Gass, C. E. Harrison, W. H. Pratt, C. H. Preeston, Rev. A. Bloomer, A. F. Tiffany, R. J. Farqueson; also proceedings of Davenport Academy of Science, Vol. I., page 96 to 143; Vol. II., pages 141 and 289; Vol. III., page 165; Vol. V., page 37; also American Antiquarian.

the town of Chillicothe. It consists of four circles, three crescents, two square works and four mounds. The eastern enclosure is the principal one, and, in common with all the rest, consists of a wall three feet high with an interior ditch. It is two hundred and forty feet square; the angles much curved, giving it very nearly the form of a circle. The area bounded by the ditch is an accurate square of one hundred and sixty feet side, and is entered from the south by a gateway twenty-five feet wide. To the southwest of this work, and one hundred and fifty feet distant, is a small mound, inclosed by a ditch and wall, with a gateway opening to it from the north. The ditch dips from the base of the mound, which is three feet high by thirty feet base.

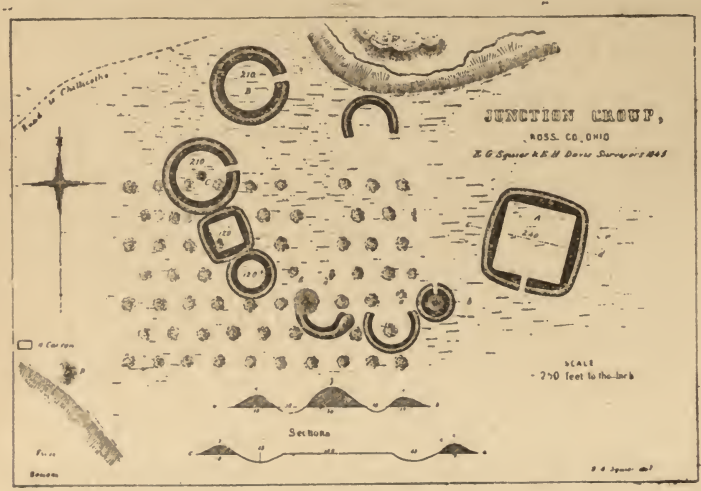


Fig. 14.—Junction Group.

Almost touching the circle enclosing the mound is the horn of a crescent work, having a chord of one hundred and thirty-two feet. Sixty-six feet distant, in the same direction, is still another crescent, which terminates in a mound of sacrifice, seven feet high by forty-five feet base, which commands the entire group of works. This mound was opened and found to contain an altar; such an altar as is peculiar to mounds devoted to religious purposes. Upon it were a number of relics clearly pertaining to the Mound-builders. In reference to these works Squier and Davis say: "That they were not designed for defense is obvious; and that they were devoted to religious rites is more than probable. Similar groups are frequent. Indeed, small circles resembling these here represented, are by far the most numerous class found in the Scioto Valley."

Next is the Blackwater group. This is situated on the right bank of the Scioto, eight miles above Chillicothe. It is especi-

ally remarkable for its singular parallels (A and B of the plan). Each of these is 750 feet long by 60 broad. A gateway opens from the southern parallel to the east. They were in cleared ground and have been cultivated for twenty years. The ground embraced in the semi-circular works (C and B) is reduced several feet below the plain on which they are located. The resemblance between this group and the one just described will be noticed. 1. The group is arranged in an irregular circle. 2. There are three crescents in the group, each of them opening into the central space. 3. There is a small circle with a ditch and mound enclosed, the usual sun symbol of this region. 4. A conical burial mound is found near one of the crescents. 5. The location of the group is quite similar to that of the Junction group, being in a high place above the river, this one being some two or three miles from Hopeton, the Junction group being two miles southwest of Chillicothe. Both of them occupy the third terrace and overlook the other works in the vicinity.

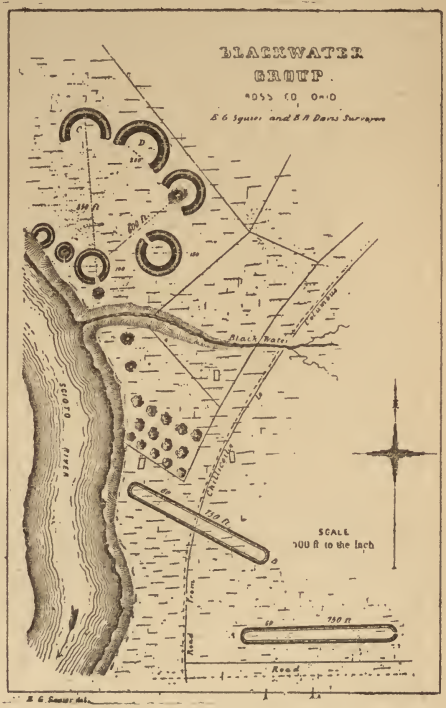


Fig. 15.—Blackwater Group.

Another place where the crescent-shaped wall is found is in the township of Seal, Pike County. The large work and the small circles would attract especial attention. The larger enclosures, situated on the terrace above the bottom land, consist of the usual figures, the square and circle, the square measuring 800 feet and the circle 1,050 feet, the connection by parallel walls, 475 feet. In the small works we have the square, the circle, the ellipse, separate and in combination, and the crescent, all of them arranged as usual around an open space. From the small circle (D) a wall leads off along the brow of the terrace. It is probable that at the other end of this wall there was another small circle which has been destroyed by the wasting of the bank. The river now runs at a distance, but it seems to have

worn the terrace away in several places before it receded. This shows the antiquity of the works. Nothing can surpass the symmetry of the small work (A). The other enclosures are perfect figures of their kind. The walls of the square coincide with the cardinal points of the compass, a fact which has great importance in connection with this form of nature worship.

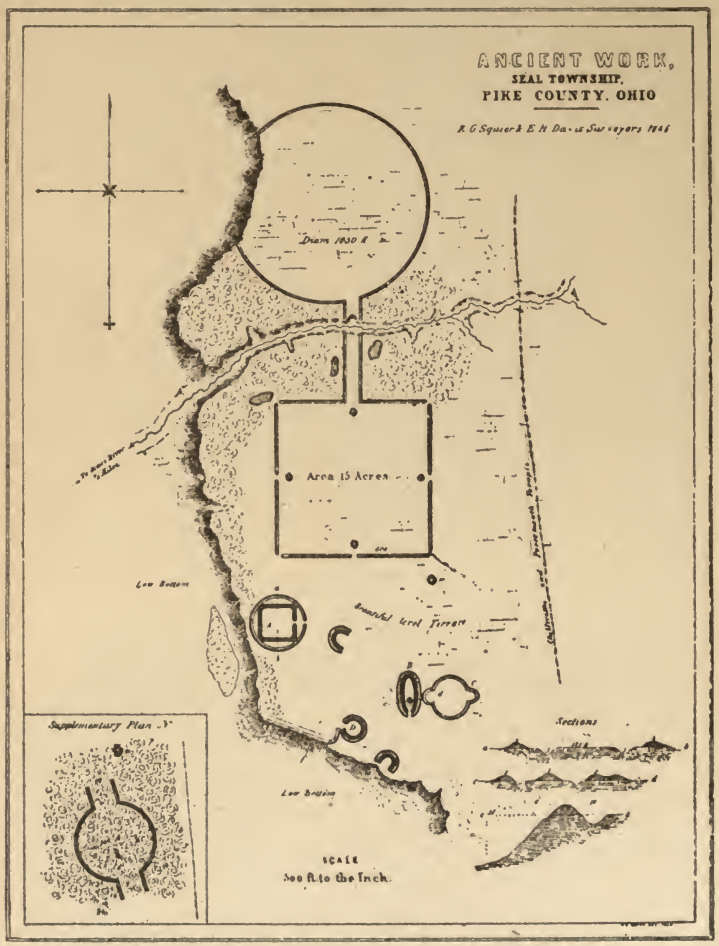


Fig. 16.—Symbolic Works in Seal Township, Ohio.

The object of these works is unknown, but our theory is that the small figures mark a place of assembly for the clan which resided in the square enclosure, a peculiar symbolism being embodied in them. It may be that there was a secret order which perpetuated the religion of the people and which ruled over their feasts, the group of mounds being the place where their mysteries were celebrated.

There are various crescent-shaped walls, near certain forts in Southern Ohio, which we take to be symbolic, and imagine that there was a protective power in the symbol. An illustration of this is found at Massie's Creek, seven miles from Xenia. There we find a wall of stone surrounding an inclosure. This wall, near the gateway, is ten feet high, with thirty feet base. Just outside the gateways are the stone mounds, so situated as to guard the entrances; outside the stone mounds are four short, crescent-shaped stone walls, each about three feet in height, the four making an outwork to the fort, on the side toward the highlands. Our conjecture is that these were in the shape of crescents, as the walls at Fort Ancient were in the shape of serpents,—the superstition being that the symbol itself was a source of safety. There are several other forts which have crescent-shaped entrances, one being at Bourneville, a region where the sun worshipers dwelt and had numerous villages.

Another evidence is to be found in the many crescent-shaped walls, near square enclosures, whose use is unknown except as symbols of the moon. There are three such walls near a square enclosure, just opposite the stone fort on Massie's Creek, evidently connected with that fort.*

There are crescent-shaped walls also within the enclosures at Marietta, as well as at the new fort at Fort Ancient; also at Liberty Township. The crescent-shaped wall, near the bird effigy in the large circle at Newark, is to be noticed. These fragmentary walls may have had a practical use as well as symbolic, but the fact that they are so frequently associated with the square and circle, and so peculiarly related to those figures, would indicate that they were symbols of the moon. It would seem from the study of the enclosures that these walls mark the place of religious assemblies or the residences of the priests or medicine men, and that they correspond to the sweat-house or rotunda of the southern tribes and to the estufas of the Pueblos though the crescents themselves may have been only the seats of the chiefs and prominent men as they gathered around the sacred fire, which sent up its spiral column in the centre of the temple, which was consecrated to the sun.

The work near Bainbridge, Ross County, situated on the Valley of Paint Creek, affords another of the thousand various combinations. It can only be explained in connection with the superstition of the builders. It could answer no good purpose for protection, or subserve any useful purpose, such as the limits of fields, or boundaries of villages.

There is another point to be considered in connection with the earth-works in Southern Ohio. Many of them have exactly the same shape with the relics and badges which are taken from the

*See Ancient Monuments, page 94. Plate XXXIV.

mounds, the two together showing that the moon cult must have been dominant. Among these we may mention those crescent-shaped altars, in which the silvery mica is supposed to have reflected the light of the moon, such as was found at Mound City, and the crescent-shaped pavement, near the great mound at Circleville, both of which were evidently symbolic. We recognize the counterparts to these in the various maces and badges and leaf-shaped relics. These maces are frequently crescent-shaped, some of them double crescents. They may have been placed at the heads of staffs and borne by medicine men or priests at the head of processions at their sacred feasts, but they show in their shape that there was a symbolism among the Mound-builders in which the moon-shaped crescent was a prominent figure. We sometimes recognize in the maces the sun circle, but the crescent was more common. What is most singular about the earthworks and relics is, that the same shapes are recognized both in the altars themselves and the relics contained within them.

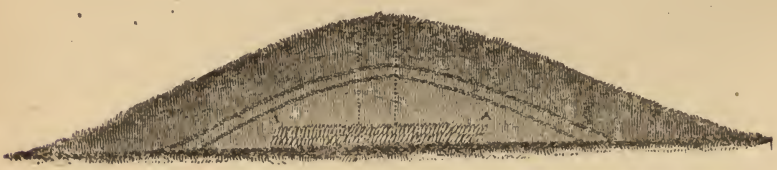


Fig. 17.—Altar of Leaf-shaped Implements.

We may say in this connection that an altar was found upon the Illinois river, in Cass County, which consisted of several layers of leaf-shaped implements, which were almost the exact counterpart of one found in Mound City, near Chillicothe, Ohio. The body on this altar was not burned. There was upon the breast a copper plate in the form of a crescent, shell gorgets, and other relics. Dr Snyder says the mound gave evidence of a water cult; but the resemblance to the Ohio mounds would show that it was connected with the fire cult. In reference to the shape of these flint relics and their religious significance, we may say that the exploring party led by Mr. Warren K. Moorehead has recently came upon a remarkable find, which consisted of 7,300 flint relics, placed in an oval bed, at the bottom of an elliptical mound. The shape of the altar and mound corresponded, though the axis of the stone heap trended west, while the mound itself was directly north and south. This fire bed is said to have been twenty feet wide by thirty feet long, and the flint relics which constituted the pavement varied from twelve to fifteen inches in length and five to eight inches in width, making the pavement something over a foot in depth. This find was upon the north fork of Paint Creek, in the group of mounds from which Squier

and Davis, many years ago, took so many valuable and curious relics, showing that the offerings which were placed upon the altar were in reality devoted to the moon as well as to the sun, the mound, the altar and the relics being combined in symbolizing the different phases of the moon. Our conclusion is that the moon cult was as prominent as the fire cult, and that both of these were associated in the minds of the sun-worshipers. They gave significance to the altars, the relics and the earthworks of this region. Proofs of all this are given in the fact that offerings were placed upon altars which were very carefully constructed, the shapes of the altars perhaps being symbolic. The fire was lighted until the offerings were consumed.

Squier and Davis speak of this when they describe the mounds in Mound City: Mound No. 1 showed traces of fire near the summit, which increased until the altar was reached. The relics found within the altar varied. In one they consisted of fragments of pottery, ornamented very tastefully, convex copper discs and a layer of silvery mica, in sheets overlapping each other, and above the layer a quantity of human bones.

Mound No. 2 contained an altar in the shape of a parallelogram of the utmost regularity. It measured at the base 8x10 feet, and at the top 4x6 feet, and was 18 inches high; dip of the basin 9 inches. Within the basin was a deposit of fine ashes, fragments of pottery and a few pearl and shell beads. This mound also contained an intruded burial, for at three feet below the surface two skeletons were found. With these skeletons were found implements of stone, horn and bone, as follows: Several hand-axes and gouges; beautiful chip of horn-stone, the size of one's hand; several knife handles made of deer's horn; an implement made from the shoulder-blade of a buffalo, and a notched instrument of bone, designed for distributing paint in lines on the faces of the warriors.

Mound No. 3 is egg-shaped; measured 140x60 feet, 11 feet high; contained four strata. At the base of this mound there was a double altar. The entire length of the bottom altar was not far from 60 feet; that of the upper was 15 feet. The dip of the first basin was 18 inches. Relics were found within the smaller basin. It was found that the one altar had been built and used for a time, and then another one built within this basin, the process having been repeated three times, the ridge forming the last altar having a basin 8 feet square, while the first altar was five times that size, or 40 feet in diameter. The relics found in this mound were numerous and valuable. They were as follows: A large number of spear-heads, quartz and garnet; an obsidian arrow-point, and other arrow-heads of limpid quartz. These had been so broken by the heat, that out of a bushel or two of fragments, only four specimens were recovered entirely. Among the copper relics were the following: Two copper

chisels, one measuring 6, the other 8 inches in length; twenty copper tubes or beads, one and a quarter inches long, three-eighths in diameter; two carved pipes were discovered, one in the shave of a toucan cut in white lime-stone; a large quantity of pottery, out of which two vases were restored.

Mound No. 7 was 17½ feet in height, 90 feet base. It was composed of six different strata of soil and sand, and contained at its base a floor of clay or altar, at one side of which was a layer of silvery mica formed of round sheets, 10 inches or a foot in diameter, overlapping each other like the scales of a fish, which made a pavement in the shape of a crescent around the altar twenty feet long and five feet wide. The mound was very compact, required an immense amount of labor to excavate it. Squier and Davis say that the presence of the mica crescent renders it probable that the Mound-builders worshiped the moon and that this mound was erected with unknown rites to that luminary.

The personal ornaments which have been found indicate the same thing. Squier and Davis speak of discovering certain scrolls and discs made from sheets of silvery mica, which were perfect in their outline. These were perforated with a single hole, and were probably attached in some way to the dress. When placed together they make an ornament which reminds us of the celebrated "winged globe" or feathered disc, which was so common in Egypt and the East. The shell gorgets, which are so numerous at the south, represent the same symbols. These contain crescent-shaped figures in the center, surrounded by circles, with dots between the circles: the whole contained within four concentric rings; the number four symbolizing the four quarters of the sky, the dots symbolizing the stars, the small circles the sun and the crescent in the center the moon. These gorgets are never found in Ohio, but they show that the moon cult was associated with the solar cult among the Mound-builders of the south.

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA.

CHAPTER XIII.

THE WATER CULT AND THE SOLAR CULT.

In our last chapter we spoke of the different systems of religion prevalent among the Mound builders, with especial regard to their location and geographical distribution. We noticed that there were different systems embodied in the works of the different districts. The works of the effigy-builders, who were probably hunters, indicated totemism; those of the tomb-builders of the prairies, who were nomads, denoted animism; those of the altar-builders of the middle district, who were agriculturists, exhibited fire worship; the sacred enclosures or villages of the Ohio district denoted the moon cult. We did not, however, complete the study of the districts, nor did we exhaust all the systems prevalent. It remains for us to finish this task.

There still remain to be considered several other systems—the water cult, the solar cult, and the beginnings of image worship. These found their embodiment in the works and relics of the three districts—those on the Ohio River, the mountain district and the gulf district—the tokens of each cult being found in all three districts and the systems having apparently overlapped one another throughout the entire region. We are to devote the present chapter to two of these systems, the water cult and the solar cult.

These systems were associated with the fire cult and serpent worship, and in some places seem to have been attended with the phallic symbol and the human tree figure, these symbols having been distributed over the middle and southern districts. They prove the religious systems of the Southern Mound-builders were much more elaborate and highly developed than those of the Northern Mound-builders, suggesting that the Southern Mound-builders belonged to a different race or received their religion from a different source. These systems are certainly more artificial, more highly organized, and show more highly developed thought. They may have sprung from nature worship, the same as the northern systems, and been owing to the growth of religious sentiment in the more permanent and advanced condition of society which prevailed at the south. Still, there are so many strange symbols in these districts, resembling those in oriental countries, that we are tempted to ascribe them to contact with civilized races, and to say that they are identically the same as

those prevailing in Europe, Asia and the far East, and must have been transmitted to this country. We do not undertake to follow up the channel through which they flowed, nor to decide as to the country from which they came, but we can not help the conviction that they bear the impress of systems which are known in historic countries and which appear in the early ages in those countries.

We imagine that there was once in the far East a system of nature worship which was as rude as anything found in America; that at that time the elements of fire, water, lightning, the sun and moon, and all the nature powers, were worshiped, or, at least, divine attributes ascribed to them. We are sure that serpent worship and tree worship prevailed, and appeared in the East, though we do not know exactly at what time they appeared. Phallic worship and image worship also came in at a certain stage in the progress of thought. The last served to corrupt and degrade the other systems, and very soon perverted them, so that they became sources of degradation to the people. The Scriptures condemn these, and history confirms the justice of the sentence. The tradition of the serpent in the Scriptures may be an allegory or a statement of fact, but there is no doubt that the serpent worship was a source of degradation and a sentence was placed upon it by enlightened conscience. The personification of the nature powers did not elevate the people, for when the personification grew more elaborate the moral practices grew more degraded. When the Eleusinian mysteries were introduced into Egypt and Greece, everything became significant of the processes of nature. Names were given to the nature powers, and myths were invented to explain the origin of the names; but the myths and mysteries did not save the people from degradation.

While the doctrine of immortality and the future state was understood and the anticipation was symbolized by nature worship, yet cruelties were practiced and degraded rites attended the worship of the elements. The phallic worship and fire worship were devoted to human sacrifices, and sun worship itself was attended with the immolation of human victims.

All of these systems are found in America, and their symbols are scattered far and wide. We do not know whether they are to be connected with the decline of religion in oriental countries, or with the progress of religion in America, for they are closely connected with the nature worship, from which all moral distinctions were absent. Still, the symbols which, in Eastern lands, are suggestive of degraded practices are the very symbols prevalent here. They are symbols which, in the East, belonged to the secret mysteries, the very mysteries which were so full of cruelties and degradations.

We maintain that the religion of the Mound-builders not only embodied the same elements as those which became so strong

in the oriental religions when at a certain stage, but it shows how these elements interacted. The fire became the symbol of the sun and consumed the offerings made to the sun, and became sacred as his servant. The serpent was frequently regarded as a divinity in some way amenable to the sun, and so serpent pipes and serpent effigies were connected with the sun circle in the symbolism of the Mound-builders. It is possible that there was a certain kind of tree worship;* the same element of life having its chief embodiment in the tree, which was able to stand up in its force. The moon cult also prevailed, for the moon is always an attendant upon the sun. Whether there was a distinction of sex between the sun and moon is unknown; but the sun circle and the moon crescent may have been male and female.

These three types of nature worship, in which the fire, the serpent and the sun were the chief divinities, probably prevailed throughout the Mound-builders' territory, though their symbols varied with different localities. We recognize the water cult, the solar cult, and the image worship, as different phases of nature worship; but we find that in the symbols there was a remarkable resemblance to the symbolism of other countries, and whether able or not to trace one to the other, we are struck with the thought that there was a studied and intentional symbolism, which resembled that of the Druids, in all their earthworks. The altars, the temple platforms, the burial mounds, the dance circles, the village enclosures, and the covered ways, were all here used not only for practical purposes and such as would subserve the convenience of the people living in the villages, but they were especially devoted to religious purposes and contained symbols in them. The relics also were symbolic, and many of them were buried with the persons,—their very position, in connection with the bodies, having a religious significance. It was not one cult alone that was symbolized in these, for some of the burial mounds contained offerings to the spirit of the dead—the symbols of the soul being placed in the mouth; but there were other offerings made to the water, to the sun, others to the fire, and others to the moon. The relics placed upon the altars, the ornaments, the flint discs, the copper crescents, the mica plates, the carved images, and the pottery figures, were all consecrated to the sun, and, when placed as offerings upon the altar, bore in their shape the symbol of the sun, as much as the altars themselves, or the earth-works in which they were enclosed. There is no locality where this system of sun worship is not symbolized. What is more, the system seemed to have brought into its service, and made useful, the symbols of the preceding

*This is the explanation given by the Dakotas of tree worship. The spirit of life was in the tree. It may be that this will account for the tree worship in the East, and will explain how tree worship and phallic worship became associated. The two in the East were symbolized by the sacred groves, so-called, the symbol of Asharah, or Astarte, the moon goddess.

stages of worship. The serpent, the phallic symbol, the carved animals, the crescent-shaped relics, the fire-beds,—all were associated with the sun circle and made parts of the symbolism of sun worship. We imagine the combination to have been as follows: The sun symbol was embodied in the earth circles; the moon cult in the altars; the fire cult in the ashes in and beside the altars; the water cult in the ponds and wells found in and near the enclosures; animal worship in the effigies; the phallic symbol in the horse-shoe earth-works. We also find that the elements, such as the four quarters of the sky, four winds, four points of the compass, are symbolized by the cross and four concentric circles. So we come to look at everything as more or less symbolic. It is remarkable, as we study the village sites, how many of the conveniencies of village life were placed under the protection of the sun divinity, and how much provision was made for the worship of the sun under all circumstances. We notice that the ponds and springs are near the villages; that covered ways connect the villages with the river's bank, and we imagine there was among the Mound-builders, as well as among the Pueblos and Cliff-dwellers, a cult which regarded springs and rivers as sacred and peopled them with divinities. We imagine that the most sacred ceremonies were observed in connection with these springs, and that the elaborate earth-works were erected to give solemnity to the various mysteries, which were directed by the secret orders. These different cults were combined, but, for the sake of convenience, it will be well to take them up separately.

I. First let us consider the water cult. This is a system which was very obscure in America, as, in fact, it was in the East. It seems to have existed here, but was closely connected with the solar cult, the ceremonies of that cult requiring the presence of water to make it complete. We have shown how extensively distributed was the tradition of the flood in America, how varied was the symbolism which perpetuated this tradition. We do not know that any such tradition existed among the Mound-builders nor can we discover any symbol which perpetuated it; but the water cult which we recognize is very similar to that which prevailed in Europe at a very early date, and was there symbolized in the prehistoric earth-works. We turn, then, to the resemblance which may be recognized between some of the earth-works in Scuthern Ohio and those in Great Britain. We have already spoken of this, but as certain new investigations and new discoveries have been made, we review the evidence.

1. The first group of works which we shall cite is the one at Portsmouth. The chief evidence is given by the avenues or the covered ways, which seem to have connected the enclosures on the different sides of the river. These, by aid of the ferry across the river, must have been the scene of extensive religious

processions, which can be compared to nothing better than the mysterious processions of Druid priests which once characterized the sacrifices to the sun among the ancient works of Great Britain. It has been estimated that the length of the avenues or covered ways was eight miles. The parallel walls measure about four feet in height and twenty feet base, and were not far from 160 feet apart. It is in the middle group that we discover the phallic symbol (see Fig. 1), the fire cult, the crescent of the moon and the sun circle. In the works upon the west bank of the Scioto we find the effigy enclosed in a circle (see Fig. 2), as a sign of animal worship, and in the concentric circles (see Fig. 3) with the enclosed conical mound, on the Kentucky side, we find the symbols of sun worship. We would here call attention to the theories recently thrown out by Mr. A. L. Lewis that the water cult was combined with the sun cult at the great works at Avebury; the avenues made of standing stones having passed over the Kennet Creek before they reached the circle at Beckhampton; the same is true at Stanton Drew and at Mount Murray, in the Isle of Man. In each of these places were covered avenues reaching across marshy ground towards the circles. "If the circles were places of worship or sacrifice, such avenues connecting them with running streams may have had special object or meaning."*

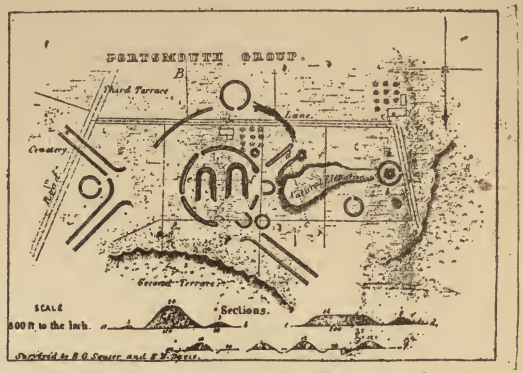


Fig. 1.—Horse Shoe Enclosures at Portsmouth.

Mr. Lewis says: "I have never adopted Stukeley's snake theory, for I could never see any great resemblance to a serpent, nor could I see any thing very suggestive of a serpent in the arrangement of the other circles. Still, Stukeley's statements about the stones of the avenue, leading from the great circle toward the river, are very precise." Stukeley says: "There were two sets of concentric circles surrounded by another circle, which was encircled by a broad, deep ditch, outside of which was an embankment large enough for a railway; two avenues of stone leading southwest and southeast. The theory now is that they led across the water of Kennet Creek to Beckhampton and to Overton Hill. The so-called coves in the large circles mark the

*Journal of Anthropological Institute, February, 1891

site of altars, whereon human sacrifice may have been offered to the sun; but the avenues mark the place through which processions passed in making their sacrifices,—a passage over water being essential to the ceremony."

This is a new explanation of these works, but it is one which becomes very significant in connection with the works at Portsmouth. Here the avenues approach the river in such a way as to show that a canoe ferry was used to cross the river, the ceremony being made more significant by that means. The covered ways, to be sure, do not reach the edge of the water, but terminate with the second terrace, leaving the bottom-land without any earth-work. This would indicate that the works are very old, and were, in fact, built when the waters covered the bottom-land. It may be said, in this connection, that all the covered ways are similar to these; they end at the second terrace, and were evidently built when the flood-plain was filled with water. As additional evidence that the works at Portsmouth were devoted to the water cult and were similar to those at Avebury, in Great Britain, we would again refer to the character of the works at either end of the avenues. Without insisting upon the serpent symbol being embodied in the avenues, we think it can be proven that the most striking features of the work at Avebury are duplicated here; the sun symbol being embodied in the concentric circles upon the Kentucky side; the phallic symbol in the horse-shoe mounds upon the Ohio side (see Figs. 1, 2, 3) and the avenues of standing stones corresponded to the covered ways which connected the enclosures on the Kentucky side with that on the Ohio side.

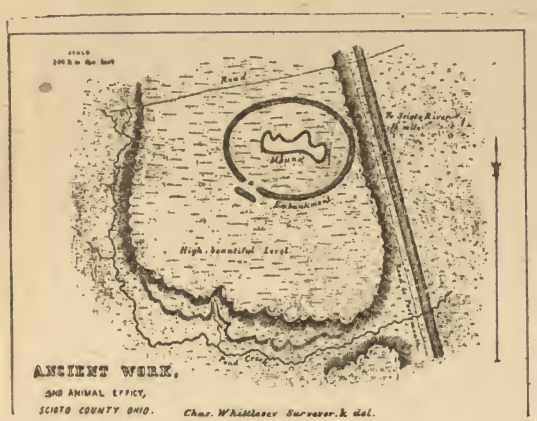


Fig. 2.—Effigy on the Scioto.

The group on the third terrace is the one which is the most significant. Here the circle surrounds the horseshoe, as the circle of stones does at Avebury. Here, too, is a natural elevation that has been improved by art, and made to serve a religious purpose. Mr. T. W. Kinney says this mound, which was a natural elevation, was selected as the site for a children's house. In excavating the cellar there was discovered a circular altar composed of stones which were standing close together, and showed evi-

dence of heat. This altar was four feet below the surface. Leading from the altar was a channel about eighteen inches wide, composed of clay, which was supposed to be designed to "carry off the blood", giving the idea that human sacrifices were offered here, as they were upon the altars at Avebury. Squier and Davis say that the horse-shoes constitute the most striking features; they are both about the same size and shape. They measure about eighty feet in length and seventy feet in breadth. Enclosing these in part is a wall about five feet high. These horse-shoes might well be called coves. The ground within them was formerly perfectly level. They open out toward the river and were on the edge of the terrace, and so were elevated above the surrounding country and were in plain sight. Near them was a natural elevation eighteen feet high, but gradually subsiding into a ridge towards the enclosed mound. A full view of the entire group may be had from its summit. The enclosed mound was twenty-eight feet high by one hundred and ten feet base. It is truncated and surrounded by a low circumvallation. As additional evidence to this, we may mention here the great wor s situated about a mile west. See Fig. 4. Here is a group of exquisite symmetry and beautiful proportions. It consists of an embankment of earth, five feet high, thirty feet base, with an interior ditch twenty-five feet across and six feet deep. Enclosed is an area ninety feet in diameter; in the center of this is a mound forty feet in diameter and eight feet high. There is a narrow gateway through the parapet, and a causeway over the ditch leading to the enclosed mound. This is a repetition of the central mound with its four concentric circles. It is said that there was near this a square enclosure resembling the chunky yards of the South, and that the group taken together was of a Southern type. There are several small circles, measuring from one hundred and fifty to two hundred and fifty feet in diameter; also a few mounds in the positions indicated in the plan.*

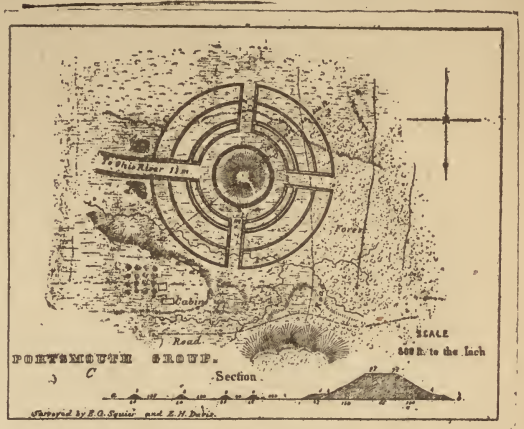


Fig. 3.—Sun Circles.

Most noticeable is a mound within four concentric circles, placed

*Mounds like this are common in this district and may be regarded as sun symbols. See the cut of works at Portsmouth; also of terraced mound in Greenup County, Kentucky, and at Winchester, Indiana.

at irregular intervals in respect to each other. These were cut at right angles by four broad avenues which conform nearly to the cardinal points. From the level summit of this mound a complete view of every part of this work is commanded. On the supposition that it was in some way connected with religious rites, the mound afforded the most conspicuous place for their observance. See Fig. 3.

"The mound in the center, at first glance, might be taken for a natural elevation. It is possible that it is a detached spur of the hill enlarged and modified by art. It is easy while standing on the summit of this mound to people it with the strange

Fig. 4—Terraced Mound opposite Portsmouth.

priesthood of ancient superstition and fill its walls with the thronging devotees of mysterious worship. The works were devoted to religious purposes and were symbolic in their design."*

Atwater speaks of this group as having wells in close proximity to the horse-shoes. He speaks of the earth between the parallel walls as having been leveled by art and appear to have been used as a road-way by those who came down the river for the purpose of ascending the high place. We have dwelt upon these peculiarities of the works at Portsmouth for the very reason that they seem to prove the existence of a water cult, and because it so closely resembles those in which the water cult has been recognized in Great Britain. We maintain, however, that it was a cult which was associated with sun worship, and that the phallic symbol was embodied here. We maintain that sacrifices were offered to the sun, and that the human victims were kept in the corral on one side of the river; that they were transported across the water and carried up to the third terrace, and immolated

*Ancient Monuments, page 82.

near the horseshoe, and that afterwards the processions passed down the terrace, through the avenue, across the river, a second time, and mounted the spiral pathway to the summit of the terraced mound situated at the end of the avenue.

In reference to this corral, so called (see Fig. 5), we may say that the walls surrounding the area are very heavy, and are raised above the area enclosed, in places as much as fifty feet. They convey the idea that the enclosure was for holding captives, for they resemble the walls of a state's prison rather than those of a fort; being level on the top and made as if designed for a walk for sentinels. The parallel walls or covered ways on each side of this enclosure have an explanation from this theory. They were built to the end of the terrace and were probably intended to protect the sentinels who were stationed at the ends. They command extensive views, both up and down the river, and were convenient places from which to watch the enemy, as they might approach to release the captives. The groups upon the Kentucky side and the effigies on the Scioto are connected with these horse-shoes and with one another by the avenues. The group to the east is the most interesting on account of its symbolism, and the most interesting part of it is the mound with the spiral pathway.

Fig. 5.—Corral.

2. The works at Newark are next to be considered. These works are described in the chapter on "sacred" or village enclosures, but we take them up here in connection with the water

cult. The most remarkable feature of this entire group of works is that presented by the various lines of parallel walls, which extend from one enclosure to another, and from the enclosures to the water's edge. There were five sets of parallels: One has been traced from the octagon westward for about two miles; another extends from the octagon toward the large square for about a mile in length; a third extends from the octagon to the bottom-land, and probably once reached the water's edge; a fourth extended from the circle called the old fort to the square; a fifth extended from an irregular circle, on the edge of the terrace, to the bottom-land, and, perhaps, to the water's edge.

One of the peculiarities of these parallels is that the roadway, in many places, was elevated above the wall. In the northern avenue this elevated grade extends for a quarter of a mile, and is broad enough for fifty persons to walk abreast. A similar grade is found in the avenue that leads from the large square to the irregular circle. The same is true of the parallel leading from the large circle, down the terrace, to the South Fork. The bank of the third terrace, here 20 feet high, is cut down and graded to an easy ascent. The roadway is elevated above the walls, and extends out upon the alluvial bottoms beyond the wall. A similar grade is constructed at the extremity of the northern wall. There was a road excavated into the terrace for one hundred and fifty feet, but the earth was used to form an elevated way over the low, swampy gronnd at the foot of the terrace. These excavations constitute quite an imposing feature when seen on the spot. The inquiry is, what was the object in erecting these parallel walls, and making such elevatcd roadways, with grades at the ends of the roads leading to the bottom-lands? The water is now not there and the grade seems to be useless. One supposition is, that at the time the works were erected, the water flowed over the first terrace and washed up to the foot of the second terrace; and that these grades were used for canoe landings.* Why are the roadways elevated and made so broad? Were they designed for the passage of armies, with troops marching abreast? Were they designed for religious processions, which were led from the water to the sacred enclosures? Let us examine the works more particularly. Squier and Davis say that a number of small circles were found within the paral-

*Mr. Isaac Smucker says the terrace was fifty feet above the bottom land; very few mounds and no walls on the bottom lands. He thinks one set of parallels may have led across Licking Creek to Lancaster. He says that formerly there was a fort on a hill to the west of these works; a fort which contained fifty acres, whose walls were conformed to the outline of the hill. This may have been another of the hill forts, which were used by the sun worshipers as a refuge when their villages were attacked. He also says that the works extended from the Raccoon to the Licking and covered the plain. The octagon was on the bank of one stream, the irregular circle and graded way near the forks, and the parallel led toward the other stream. The alligator effigy and the fort referred to were several miles west. He speaks of a reservoir or artificial lake, twenty rods in diameter, and a sugar-loaf mound, about fifteen feet high, situated on one of the bluffs, also of a crescent earth-work and large enclosure between the alligator mound and the old fort. See American Antiquarian. Vol. VII, Page 349.

lels,—they probably mark the site of ancient circular dwellings. Circles having diameters of one hundred feet, with ditches interior to the walls, and elevated embankments interior to the ditch, are also seen at various points at the ends and along the sides of the covered way. These circles, with their enclosed crescents, betray a coincidence with those connected with the squares and covered ways at Hopeton, at Highland and elsewhere. May they not have been circles in which religious houses were placed? There is one circumstance which favors this supposition. Mr. Isaac Smucker says there was a group of burial mounds near the old fort, around which was a paved circle eight feet wide,—the mounds being closely connected at the base. Each one of the mounds was made up of a series of layers of earth alternating with layers of sand, followed by layers of cobble stone,—the cobble stones being first placed over a strong burning. In the mounds six or eight post holes were discovered filled with sand; the center post extending down several feet. The conclusion was, that the conical buildings and rotundas had been built upon these mounds; and that fires and burials or burnings had taken place in the rotundas. Different hearths or fire beds had been built inside, making different occasions of sacrifice. Mr. I. Dille says: "To the east of the line of embankments on the second bottom of the creek, are numerous mounds. In 1828, when constructing the canal, a lock was built here. Fourteen human skeletons were found four feet beneath the surface, some of which seemed to have been burned. Over these skeletons, carefully placed, was a large quantity of mica in sheets and in plates; some of them were eight and ten inches long, and four and five inches wide. It is said that from fourteen to twenty bushels of this material were thrown out."

We are to notice, in this connection, the various religious works at Newark. 1. The effigies; there was a bird effigy inside the old fort, with its altar; an alligator effigy, with its altar, at Granville. 2. The circles; there are circles inside the avenues, various circles on the terrace inside the large enclosures; many of these circles have crescents, showing that the moon cult prevailed. 3. The ponds and water-courses; the pond near the old fort has a peculiar shape. 4. The corrals; the old fort was a good specimen; it resembled that at Portsmouth, on the Kentucky side; this had the ditch on the inside and had a high wall, which gave the impression that it was designed to hold captives within the area rather than to defend the area from an attack from without. 5. The parallel walls located near the fort; these were undoubtedly for the trial of captives, where they ran the gauntlet. 6. The network of walls and gateways; this can be explained only on the supposition that elaborate ceremonies were observed here; the walls can not be regarded as game-drives; they may have been designed for protection of the villages, but,

if so, they were villages of a class of sun-worshipers. But it is probable that here all forms of worship—animal worship, fire worship, moon worship, water cult—were mingled together and brought under the control of the solar cult.

3. The same lesson is impressed upon us as we go away from this series of works and enter the circles and sacred enclosures on the Scioto River, on Paint Creek, the Muskingum River, the Miami River and the White River. In nearly all of these places we find the enclosures having the form of the square and the circle, and having about the same area as those of Newark. We find also that there are small circles with ditches and small crescent embankments inside of the circles; also gateways opening toward the enclosures, giving the idea that they were places of sacred assembly and at the same time symbolic in character. We notice, too, that in many of the groups there are covered ways resembling those at Newark, and that the graded ways generally lead from the sacred enclosures to the water's edge, giving the idea that they were used for processions, the water cult being common in all of the localities. At Marietta the graded way leads from the second terrace up to the third terrace, and connects the enclosure and the three temple platforms with the river, thus giving the impression that they were used for religious purposes rather than for warlike, that processions leading captives passed from the water's edge up to the temples and to the high conical mound.*

Fig. 6.—Works at Paint Creek.

Mr. Harris says there was at Marietta a well sixty feet deep and twenty feet in diameter, of the kind used in early days, when water was brought up in pitchers by steps. This well may have been for the convenience of the people living in the enclosures, but its proximity to the temple platforms and the conical mound and the graded way makes it significant.

4. The works at Paint Creek. There were wells or reservoirs inside both the enclosures at this point. Atwater says in one there was a large pond or reservoir fifteen feet deep and thirty-nine

*Squier and Davis say there was a sloping terrace 700 feet wide between the end of the covered way and the bank of the river; that there were no works on this terrace, which was about forty or fifty feet above the river. They seem to doubt that the river flowed over the terrace at the time that the graded way was built. It is possible that the village was upon this terrace, and that the inclosure upon the upper terrace was the sacred place, where the chiefs dwelt, and that the graded way with the protecting walls were designed for processions from the village to the temples, though the other supposition is a plausible one.

feet in diameter. It was supplied by a rivulet which runs through the wall, but at present sinks into the earth. These wells may have been merely for the convenience of the villagers, but there are so many places where hot houses or assembly houses were placed near ponds of water or streams or springs, we conclude that water served an important part in the religious ceremonies. These enclosures on Paint Creek contain mounds or sacrificial places, which seem to be connected with the ponds. Atwater speaks of one covered with stones and pebbles. He says this mound was full of human bones. Some have expressed the belief that on it human beings were once sacrificed. Near this was an elliptical mound, built in two stages, one eight feet high, the other fifteen feet. On the other side of the large mound was a work in the form of a half moon, set round the edges with stones, and near this a singular mound, five feet high and thirty feet in diameter, and composed entirely of red ochre, an abundance of which is found on a hill near by. The small circular enclosure opens into a large area and connects with it by a gateway. Inside the circle is a lesser circle, six rods in diameter. It seems probable that this circle marks the site of the rotunda and that the whole enclosure was used for sacred purposes, the larger enclosure being the place where the imposing religious ceremonies were observed. Atwater speaks especially of the wells, one of them being inside of the enclosure, near the mound, and others outside the walls. It would seem from the proximity of the wells to the mounds that there were here the water cult, the fire cult, the moon cult combined, and the complicated system of religion in which the priests had great power.* See Fig. 6.

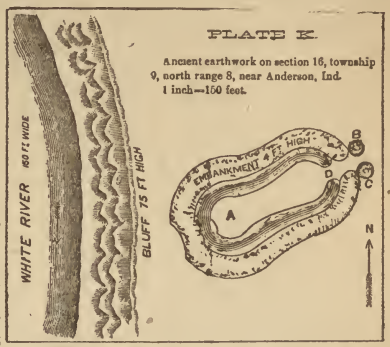


Fig. 7.—Sacred Enclosure near Anderson.

Another locality where the water cult is apparent is on the White River, in Indiana. Here, in one place, is a square enclosure with a diameter of 1320 and 1080 feet, which has a mound in the center nine feet high and one hundred feet in diameter. This is on the fair grounds at Winchester. Near Anderson, on the banks of the White River, there is a group of small enclosures. One of these has a constricted elliptical embankment one hundred and fifty feet in diameter. Another has a length of two hundred and ninety-six feet and a width of two hundred and fifty feet,—the wall being thirty-five feet at base and four feet high; ditch, eight feet wide, with a gateway which is protected by two

*Ancient Works on Paint Creek.

REESE LIBRARY OF THE UNIVERSITY

small mounds. On the same section is a group containing four circles, two ellipses, and a terraced mound. The embankment of one at the base is fifty feet wide and nine feet high; the ditch is five feet wide, ten and one half feet deep. The central area is 130 feet in diameter, and contains a mound four feet high and 30 feet in diameter. The gateway is 30 feet wide. Carriages may drive in through the gateway and around the mound on the terrace, and have room to spare. The group is an interesting one, and was evidently designed to be symbolic. Other earth-works similar to this are found near Cambridge, in Wayne County. Here there are two circles, with embankments four feet high, and wide enough on the top to allow two carriages to pass each other. The ditch is on the inside of the embankment, and within the ditch is a circular, level area, with a causeway leading across the ditch through the gateway. These are situated on the bank of the Whitewater River. A passage-way leads from the bluff to the water's edge, equally distant from both circles.

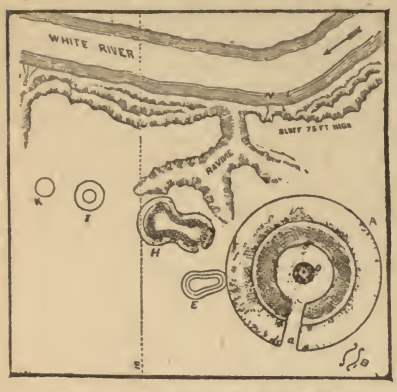


Fig. 8.—Sun Circle on White River.

These circles seem to be all religious symbols, the enclosure with the circular mound and ditch, and passageway across the ditch, being symbolic of the sun, the constricted ellipses being a symbol which resembles the banner stones. The graded ways from these small enclosures to the water's edge show that with the solar cult the water cult was here associated.

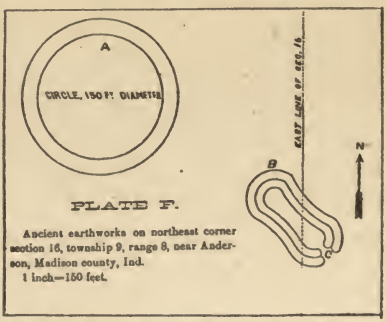

A
CIRCLE, 150 FT. DIAMETER
EAST LINE OF SEC. 16
B
N
PLATE F.
Ancient earthworks on northeast corner section 16, township 9, range 8, near Anderson, Madison county, Ind.
1 inch—150 feet.

Fig. 9—Circle and Ellipse near Anderson, Indiana.

There are several structures devoted to the water cult on the Kanawha River, in West Virginia, and on the Wateree River, in North Carolina. These resemble the earth-works in Southern Ohio. Their peculiarities are that they are circular enclosures, have uniform measurement of 660 feet in circumference, have a ditch on the inside and a mound on the inside of the ditch. Several of the circles have a truncated mound situated outside of the gateway and guarding the entrance, conveying the idea that there may have been a rotunda on the summit, and an

assembly place or council house inside the circle. There is near one of these circles a graded way which leads from the enclosure through the terrace down to the bottom land of the Kanawha River, a feature which is noticeable in the Ohio mounds, and was there ascribed to the water cult. One of these mounds was explored and found to contain an altar exactly like the altars in Ohio. It was covered with charred human bones. There were in the same mound, at different depths, skeletons; one recumbent, two in sitting posture. The altar was at the bottom, this showing that the ancient race was the same as the sun worship-

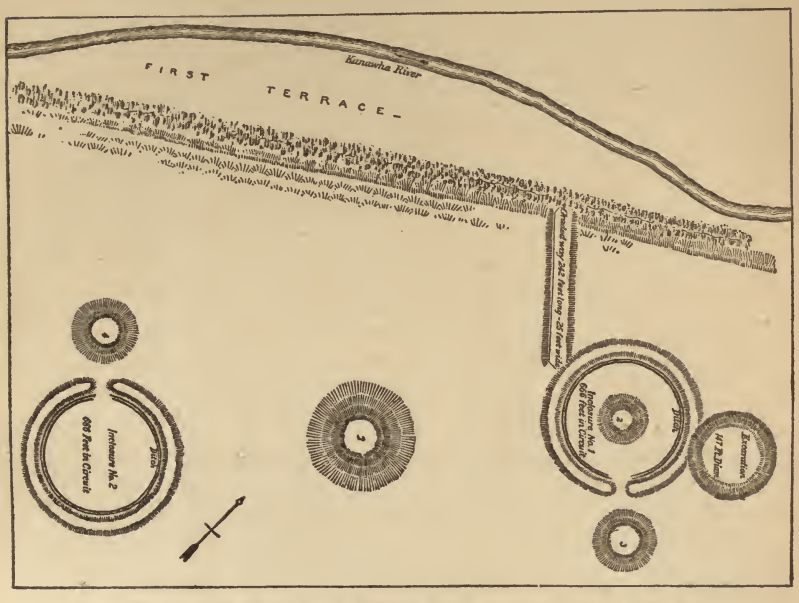


Fig. 10.—Sun Circles and Graded Way on the Kanawha River.

ers of Ohio. But it was followed by others, who built mounds, but did not build altars.

5. The same lesson is conveyed by the graded ways, which have been discovered in the Southern States, and which, according to Squier and Davis, are quite numerous. Descriptions have been given of these by Mr. Bartram, and his explanation of them was that they had been used for avenues which connected the estufas with the artificial ponds used for bathing. They are called savannahs, as they are now meadows, but they were once undoubtedly filled with water and are artificial. The mounds were probably foundations for rotundas.

Mr. H. S. Halbert has described another mound situated in Winston County, Mississippi. Here was a mound about forty feet high with a semicircular rampart surrounding it. A roadway led from this mound towards the creek, but ended in the

intervening swamp. The Messier mound in Georgia is another specimen also. This is a pyramid, which was once surrounded by a rampart or wall. There is near it a large, artificial pond, covering an area of about two acres, and an immense circular well forty-eight feet deep. The mound is one of the largest in the Southern States,—320 feet long, 180 feet wide, 57 feet high, situated upon the summit of a hill. It was not erected for defensive purposes, but as a temple. In the religious festivals observed here, ablutions served an important part, and water was an essential element.

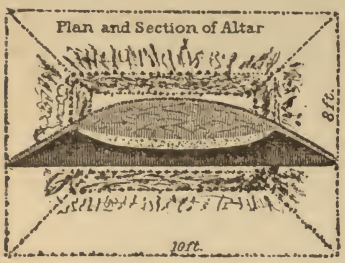


Fig. 11.—Altar.

II. We now come to the system of sun worship. This was a very extensive system, and one which seemed to rule over all others. In fact, we may say that all the other systems are adjuncts or tributaries to this. Sun worship was widely distributed, and prevailed among nearly all the districts in the Mound-builders' territory, though it is the most prominent in the middle and southern districts. It found its highest. or, at least, most complicated, development in Southern Ohio. Here a very ancient people were devoted to sun worship, whose history is unknown, but whose works and relics were left in great numbers. We enter this district, and shall study the earth-works and relics here, with the idea that we shall ascertain something about the system There is no part of the country where the tokens are more suggestive and interesting. In fact, nearly everything here is suggestive of this system. A most complicated series of earth-works, some of them designed for villages, some of them for forts, some for dance circles, some for burial places, some for council houses, but they were all symbolic. Here were also many solid mounds, some of which contain altars; others were sacrificial places; others were lookout stations; others were temple platforms; others were places of religious assembly; but in all of these we find symbols of the sun. It would seem as if the sun worshipers had been so impressed with their system that they had used the works of nature as contributors to worship—the hilltops, the valleys, the streams, the very springs having been used by them in carrying out the different parts of their varied cult. The clan life prevailed here, and clan villages were numerous; clan emblems were not uncommon, but sun worship was the uniform element with all the clans. This uniformity extended not merely to the river system, bringing

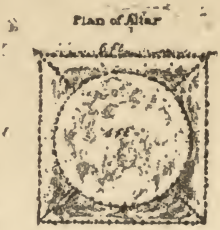


Fig. 12.—Altar.

together the clans scattered along each river, but it extended also from river to river, and brought together the people of the entire district into one grand confederacy. This confederacy extended from the White River, in Indiana, to the Muskingum, in Ohio, and may have embraced all the country between the Wabash and the Alleghany Rivers. There are also some evidences that it extended from Kentucky into West Virginia, and that the works upon the Kenawha River and the Licking River belonged to the same system.

The altar mounds described in the cuts (Figs. 11 to 14) contain no relics. The first one contained fragments of pottery; the second a mass of lime and fragments of calcined shells. May it not be that pottery vessels were offered in one and inscribed shell gorgets in the other, the fire having reduced these to ashes. The other mounds in this enclosure contained altars on which offerings of costly and highly wrought relics had been placed—two hundred pipes on one, large quantities of galena, thirty pounds in all, on another, obsidian arrows and pearl beads on another, copper gravers and ornaments made of copper and covered with silver on another. The mica crescent depicted in Fig. 15 was at the bottom of the largest mound, one which overlooked the whole group. The crescent was shelving, its outer edge being raised a few inches above the inner edge, but there was no altar in the mound and no other relics. The location of the group of mounds is to be noticed here. "Mound City" is opposite the

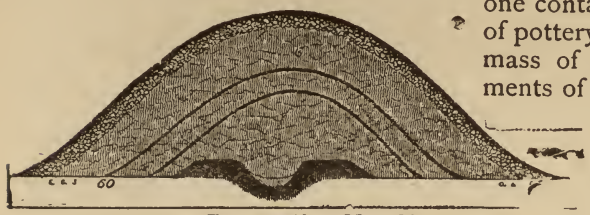


*Fig. 13.—Altar Mound.**

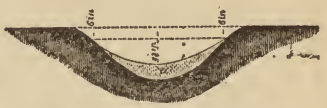


Fig. 14.—Altar in Relief.

*The description of the mounds containing the altars is given in another chapter. The altars represented in cuts 11 and 12 were found in mounds Nos. 2 and 4. No. 3 contained a double altar. This altar showed marks of intense heat. The relics which had been offered were varied; arrow-points of obsidian, of limpid quartz, of copper gravers or chisels, copper tubes and carved pipes. In mound No. 8 was an altar somewhat resembling that in Mound No. 2. The deposit on this altar was very extensive; 200 pipes carved in stone, pearl and shell beads, discs and tubes made of copper, copper ornaments covered with silver. Masses of copper were found fused together in the center of the basin. The pipes were in fragments. They represented animals, such as the otter, heron, fish, hawk with bird in its talons, panther, bear, wolf, beaver, squirrel, raccoon, crow, swallow, buzzard, paroquet, toucan, turtle, frog, toad, rattlesnake, and a number of sculptured human heads. Mound No. 7 was the one which contained the crescent, Fig. 13. It was the largest and highest of the group, and commanded a view of the entire group. It contained no altar, merely a clay floor, but the crescent was shelving or dish-shaped; the outer edge rested on an elevation of sand, six inches in height. The mica crescent was the chief feature of the mound, though the earth of the mound was incredibly compact. Mound No. 9 contained an altar and a layer of charcoal. In the altar were instruments of obsidian, scrolls of mica, traces of cloth, ivory and bone needles, pearl beads. The articles contained in the altars show an extensive aboriginal trade as well as an advanced stage of art. The symbolism contained in the altars prove that the offerings were made to the sun and moon. See chapter on Altars and Ash-pits; see also figure of Mound City.

enclosure at Hopeton and nearly opposite the square enclosure at Cedar Bank. The covered way at Hopeton leads toward Mound City. May it not be that this was the way through which processions passed on the occasions when the annual burial feast or "great burning" took place? The passage across the river by a ferry to the place of burning would resemble the Egyptian custom, and would fulfil the picture which Virgil has drawn of Charon crossing the river Styx with the souls of the dead.*

Let us take up the works in detail, and see the symbolism contained in them. We notice that there are truncated pyramids or platforms in this district, generally inside of square enclosures, that they were orientated and had inclined passage-ways to their summits. We notice also that there were elliptical and conical mounds inside of the circular enclosures, many of them surrounded by pavements in the form of ellipses and crescents. We also notice that these large enclosures are always connected by parallel walls or covered ways with the clusters of small circles and crescents; that the altar mounds are generally surrounded by circular walls; that even lookout mounds are inside of circles. We notice further that there are terraced mounds with spiral pathways on their sides, and many of these have ditches and circles surrounding them, some of them have several concentric circles. We notice also that some of the enclosures are in the shape of constricted ellipses, others have triangular gateways, others combine the square and circle in one. We notice also that the altars are carefully built in the form of circles and squares.

Fig. 15.—Crescent Pavement.

We conclude that a complicated system of symbolism prevailed, a symbolism devoted to sun worship. We notice further that the relics are symbolic, that while many of the pipes were carved in the shape of animals and serpents, some of the tablets were inscribed with human tree figures. The mica plates and copper ornaments and other metallic relics were in the shape of crescents, circles and scrolls. Some of them had the suastika inscribed upon them, a mingled symbolism being apparent in the relics. We notice still further the resemblance between the earth-works and the relics, animal figures being found in some of them, as in the pipes, but crescents, circles and scalloped figures in the earth-works as well as in the tablets and metallic relics. While the suastika has not been recognized in an earth-work, the cross has been. The serpent and the bird effigy are well known, but these remind us of the figures on the inscribed shell gorgets so

*H. S. Halbert speaks of an ancient road which crosses the Tombigbee, connecting the cemetery on Line Creek in Mississippi and Mound-builders' settlements in Alabama. The habit of crossing streams with the bodies of the dead is an old one, and was common among the Egyptians and other Eastern nations.

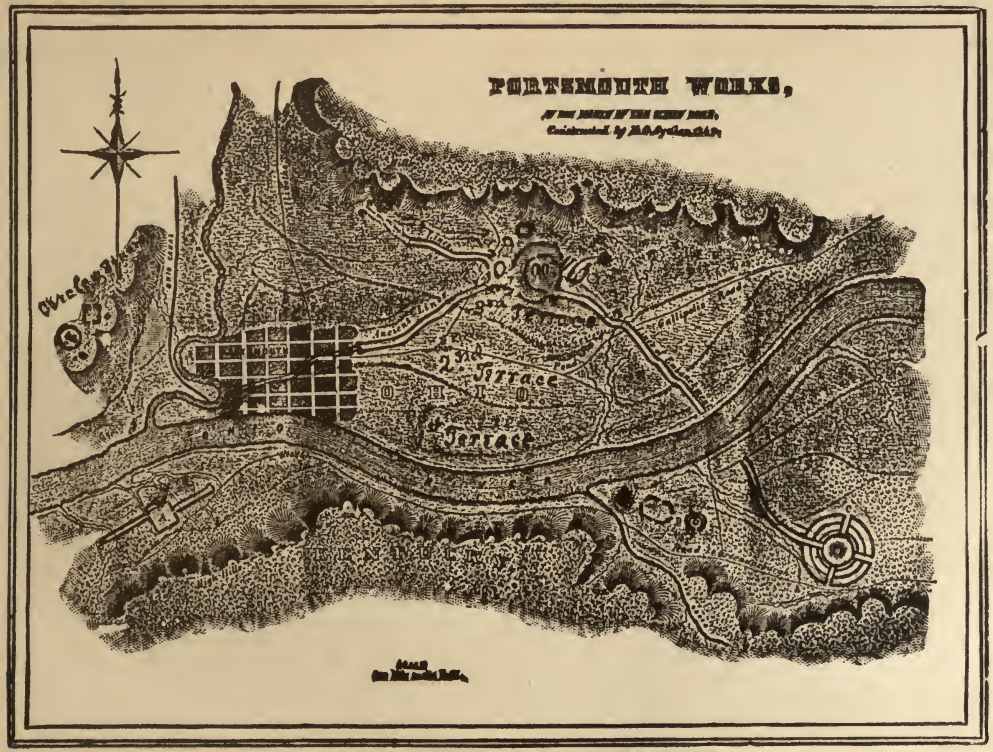


PLATE I.—WORKS AT PORTSMOUTH.

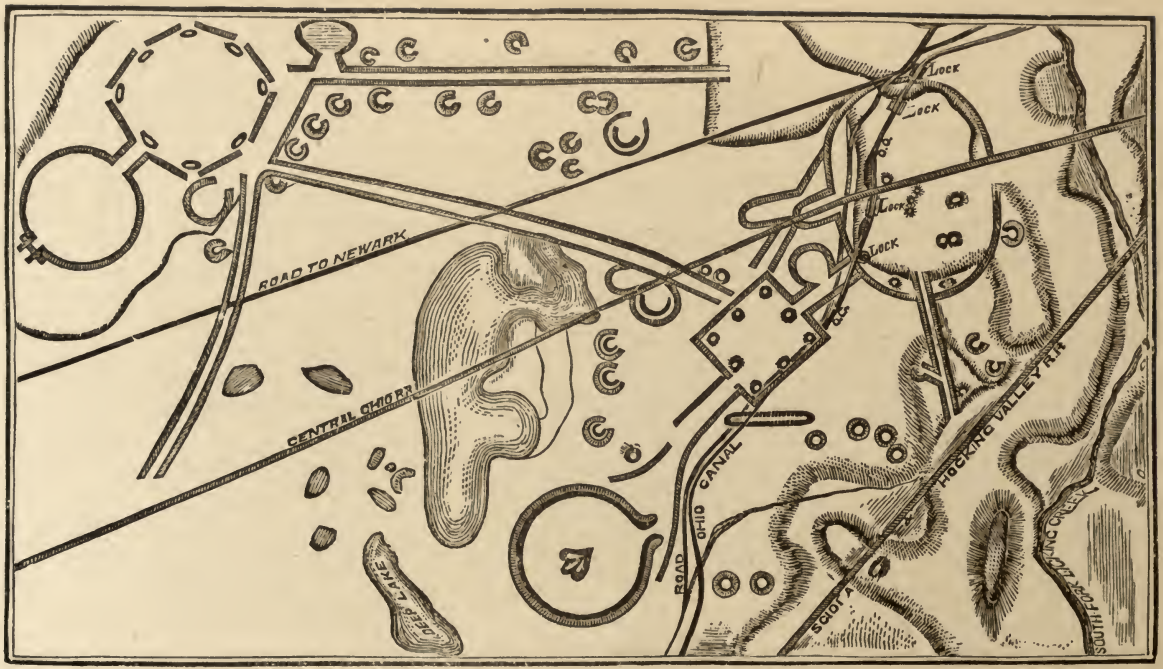


PLATE II.—WORKS AT NEWARK.

common in the South, the elliptical enclosure in the body of the serpent resembling the same figure on the inscribed shells.

The earth-works of Ohio were designed to protect the villages, which were so numerous there, but they were villages which were pervaded by sun worship. The people dwelling within them were surrounded by the symbols of the sun and followed all the processes of village life under the control of this luminary. They went to the fields, to the dance grounds, to the places of assembly, to the ponds and streams and springs under its protection, and even placed their dead in graves or upon altars which were symbolic of the sun. When they conducted war, they brought back their captives, kept them for a time in enclosures consecrated to the sun, and afterwards immolated them as victims and perhaps presented their bodies or hearts as offerings to the sun, making the remarkable terraced mounds the place where this chief rite was celebrated. The platform mounds may have been foundations for temples; they were, however, temples which were depositories for the bodies of their eminent men, rather than assembly places, and were approached by great and solemn processions, the graded and covered ways having been built for the express purpose of accommodating these ceremonies. There was nothing like this among the aborigines of the North or of the South, though we imagine that if we substituted stone monuments for the earth-works that the Druidic system which prevailed in Great Britain would fit the frame and make the two pictures very similar. There was no living race in America that had any such symbolism or customs. The nearest approach to it would be the confederacies of the South, that were in the midst of the pyramids, and who occupied them, though they may not have built them.

The similarity between the symbolism of the Ohio Mound-builders and that of the stone grave people will be seen from an examination of the cuts. See Plate IV. These cuts represent the shell gorgets found in these graves, as well as in the southern and southeastern mounds. In the gorgets the serpents are coiled and the concentric circles have symbols of the sun and moon and stars between them, as the squares have birds' heads at their sides and loops at their corners, but the figures are the same and the significance similar to those contained in the circles, squares and serpent effigies of Ohio.

Let us now draw the comparison between these works and those found in the Southern States. The Mound-builders of the South were evidently sun worshipers, but they embodied their system in an entirely different series of works, the pyramids being the chief structure of that region. There are contrasts and resemblances—contrasts in the works, resemblances in the relics. We have opportunity of studying this contrast in this locality. The pyramid builders reached as far north as the Ohio River and

Vincennes on the Wabash, and we find that while they were sun worshipers, there was another class of sun worshipers alongside of them, who adopted the circle as their symbol, and built their structures in this form. Here we call attention to the large group of mounds which surrounds the city of Vincennes. Dr. Patton says of these: "The beautiful valley in which Vincennes now stands was doubtless the site of a great city occupied by the Mound-builders. There is a line of elevation surrounding this valley on the north, south and east, and from the great number of mounds in the locality, and the large size of some of them, and the relics found we may suppose that the region was densely populated by an ancient people whose history is veiled in obscurity." He speaks of the probability of some of the large mounds having been used for sacrificial or cremation purposes. The mounds are called mounds of habitation, lookout mounds, temple mounds and terrace mounds. The pyramid mound, one mile to the south of Vincennes, is surrounded by a cluster of small mounds, is 350x150 feet at the base, and 47 feet high. The sugar-loaf mound, just east of the city, is 216x180 feet, and 70 feet high. The mound one mile northeast of Vincennes has a diameter of 366x282 feet, and rises to an elevation of 67 feet above the plain. The top is level, with an area of 10x50 feet. A winding roadway from the east furnished the votaries an easy access to the summit.

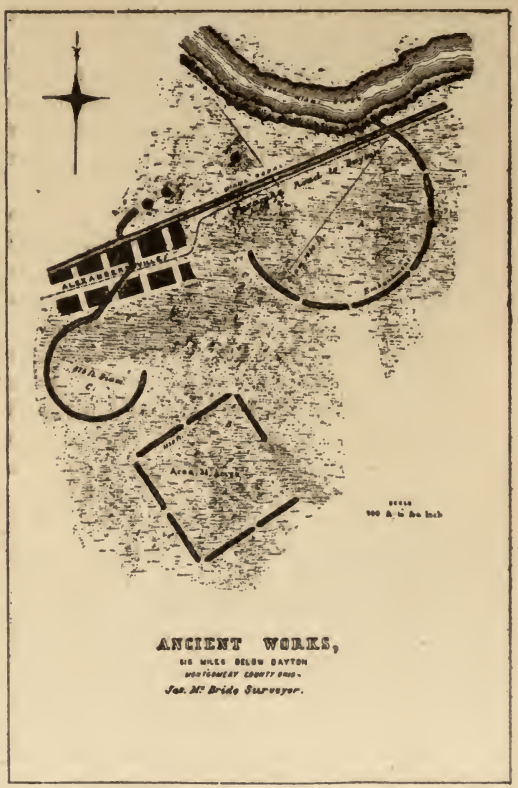


Fig. 16.—Works at Alexandersville.

We may suppose that Vincennes marks the eastern extremity of this confederacy, of which the great Cahokia mound was the

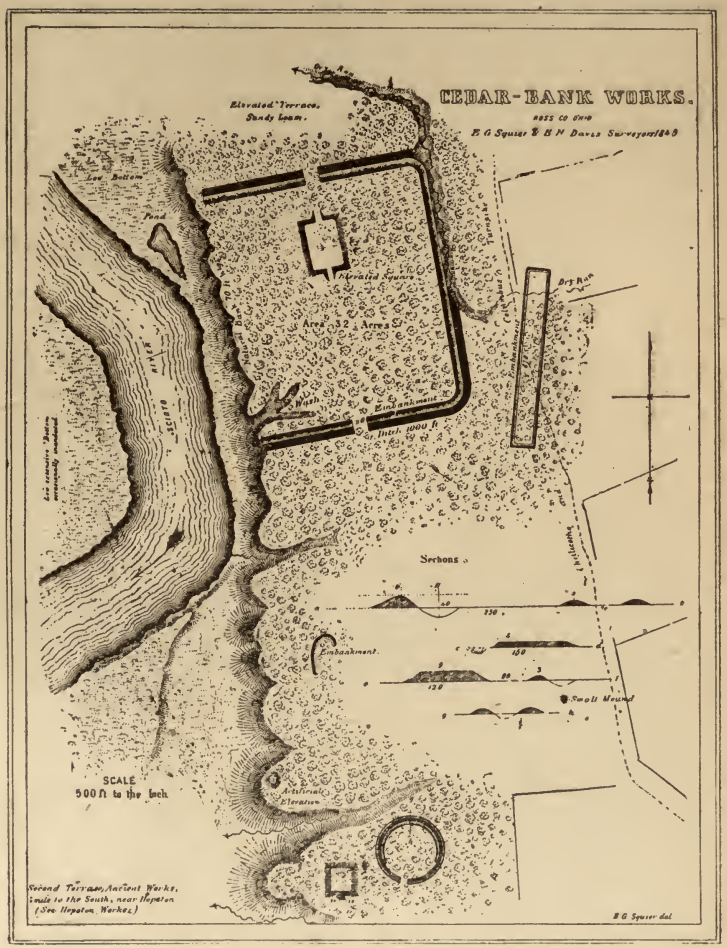


PLATE III.—TEMPLE PLATFORM AT CEDAR BANK.

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA.

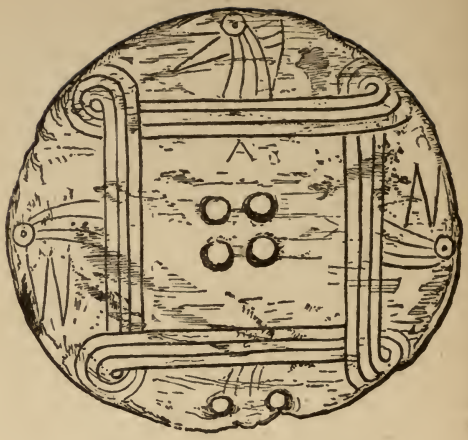


PLATE IV.

center, while the works on the White River marked the western extremity of the Ohio district, the two classes being brought into close proximity. We may notice the contrast between them. It may be that the Mound-builders of the Wabash River and of the Miami River migrated south at the incursion of the savage Indians and became the pyramid-builders of the Gulf States, one class erecting the pyramids on the Mississippi and the other those on the Atlantic coast. In that case, we shall be studying the relics of the same people when we take up the shell gorgets and the tablets of the South.

Passing out from this region on the Wabash River, where there are so many pyramids, we come to the region where the circles are so numerous. We first find some of these on the White River, some of which have already been described. They become more numerous as we reach the Big Miami, the works at Alexandersville and at Worthington (see Figs. 16 and 17) being notable specimens. The works at Worthington are very interesting. There is here a square enclosure whose diameters are 630x550 feet. It is orientated. At one corner of this is the small circle, 120 feet in diameter, whose gateway is in line with that of the square. On the wall is the truncated cone, 20 feet in height and 190 feet in diameter. Opposite the circle, on the bank of the stream, is the small circle with three openings. This circle has a ditch inside, and seems to combine the circle, the square and triangle in one. The author discovered at one time a group similar to this, at Fredericksburg, twenty miles north of Newark. Here were the triangle, the square and the circle all combined in one. Near by was another enclosure, which was even more striking in its shape. It was situated on the bank of a beautiful stream and was in the midst of a fine forest of maples. The wall was in the shape of an ellipse with scalloped sides and ends, the curves being very graceful. Within the walls was the ditch, which had varying widths. The platform within the ditch was rectangular. From the center of the platform a symmetrical oval mound rose to the height of fifteen feet. This was leveled at the top, but its base just fitted the platform, the ends and sides extending to the ditch. No one

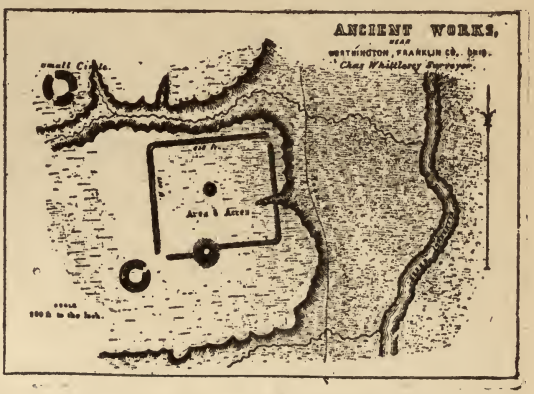


Fig. 17.—Works at Worthington, Ohio.

REESE LIBRARY OF THE UNIVERSITY

who had seen this group could deny the taste and skill of the Mound-builders, or doubt that some of their works were erected for ornament and for the embodiment of a religious symbolism.

We come next to the works on the Little Miami. These have recently been explored under the auspices of the Peabody Museum. Prof. Putnam says: "In this region are some of the most extensive ancient works of Ohio, such as Fort Ancient, with its walls of earth from twelve to twenty feet high, enclosing over a hundred acres; Fort Hill, with its surrounding walls of stone, enclosing about forty acres; the great serpent effigy, more than a thousand feet in length, the interesting works at High Bank, at Cedar Bank and at Hopeton, with their squares and circles, besides hundreds of mounds measuring from a foot or two in height to others forty or fifty feet in height. Here we have found elaborately constructed works of a religious character. Here, too, as offerings during some religious ceremony, we have found the most remarkable objects that have yet been taken

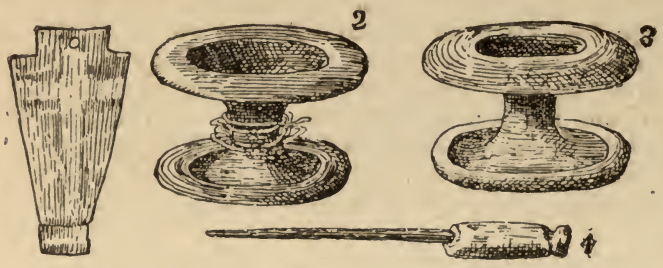


*Fig. 18.—Spool Ornaments and Cross from Stone Graves.**

from ancient works in the United States—small carved terra cotta "figurines," representing men and women; ornaments made of native gold, silver, copper and meteoric iron; dishes elaborately carved in stone; ornaments made of stone, shell, mica, and the teeth and bones of animals; thousands of pearls perforated for ornaments; knives of obsidian; all showing that the intercourse of the people of that time extended from the copper and silver region of Lake Superior on the north to the home of the marine shells in the Gulf of Mexico on the south; to the mica mines of North Carolina on the east and the obsidian deposits of the Rocky Mountains on the west."

The beautiful location of this group of earth-works indicates that in this locality there must have been a great population, the relics containing evidence of the wealth of the builders, as well as the religious character of the works themselves. Near this group of works the explorers found in the burying place of the sun worshipers a number of graves containing skeletons attended

*We would here acknowledge our obligation to General G. P. Thruston, who has kindly loaned us the cuts which he has used in illustrating his excellent work on "The Antiquities of Tennessee."

by a large sea shell made into a drinking cup and a number of shell beads, and enclosed in the bones of each hand a spool-shaped ornament made of copper, a copper pin, a wooden bead covered with thin copper, several long, sharp-edged, flint knives of the same shape and character as obsidian flakes from Mexico. Of the ear ornaments, Prof Putnam says: "I have never found them in any of the several thousand stone graves of the Cumberland Valley which I have explored, nor have we found traces of them among the hundreds of graves associated with the singular ash-pits in the cemeteries which we have explored in the Little Miami Valley, nor with the skeletons buried in the stone mounds of Ohio. They seem to be particularly associated with a people with whom cremation of the dead, while a rite, was not general, and who built the great earth-works of the Ohio Valley. I can further say that in all recent Indian graves I have opened this peculiar kind of ornament has not been found; we have certainly found them in such conditions in Ohio that they must have been buried with their owners long before the times of Columbus." One peculiarity of the altars is that they seem to have been emptied and used over and over again, but the bones and ashes were removed and buried by themselves. In reference to the locality Prof. Putnam says: "The more we examine these works the more interesting and instructive they become; we have already spread before us the outlines of a grand picture of the singular ceremonies connected with the religion and mortuary customs of a strange people."

Fig. 19.—Pipe from Etowah Mound.

Spool ornaments have since been found among the stone graves and described by Gen. Thruston. Fig. 18. The cross was found in the Big Harpeth works in Tennessee. One of the spools—No. 2—was found in a large mound, embedded in ashes, south of Nashville. This had a thread of vegetable fibre about the central shaft. The other—No. 3—was found in a mound in the Savannah works. The little copper awl, with horn handle, was found on Rhea's Island, Tennessee. Gen. Thruston says in reference to these spools that their similarity to those of Ohio illustrates the intercourse which prevailed during prehistoric times. We call attention to the idol pipes; the one represented in the cut (Fig. 19) was taken from the great Etowah mound in

Georgia, ploughed up near the base of the pentagonal pyramid. It may have been used by one of the ancient caciques in blowing or puffing tobacco smoke to the sun at his rising, as was their habit. It shows the prevalence of sun worship during prehistoric times. The Mound-builders of this section had many idol or image pipes. Some of these pipes represented females holding pottery vessels, others males holding pipes; the sex being discernible in the faces and by the utensils used; the faces always directed towards the sun.

What is peculiar about the works in Ohio is that the very mounds where so many relics were discovered and where offerings had evidently been made were in circular enclosures which were sacred to the sun. The dimensions of the enclosures are as follows: That upon the hill was a perfect circle, 550 feet in diameter; contained a large mound, in which was a stone wall, four feet high, surrounding an altar of burned clay, from which objects of shell, stone, copper were taken. A graded way from the top of the hill to the level land below connects the circle above with an oval enclosure, whose greatest diameter is 1500 feet. Near this oval is an earth circle, 300 feet in diameter, and in the circle a small mound. At the foot of the graded way is another small circle, enclosing a burial mound and a group of altar mounds, around each of which is a circular wall. Here, then, we have the same symbol as at Portsmouth—a conical mound inside of a circular enclosure, and what is more the mound has proved, after excavation, to contain an altar and relics upon the altar, thus confirming the thought that this was a symbol of the sun.

The works at Cedar Banks suggest the same combination. This work is situated upon a table-land. It consists of a square enclosure, 1400 feet wide, 1050 feet in length, with two gateways 60 feet wide, and an elevated platform 250 feet long, 150 feet broad and 4 feet high, which is ascended from the ends by graded ways 30 feet broad, and in all respects resemble the truncated pyramids at Marietta. About 300 feet distant from the enclosure are the singular parallel walls, connected at the ends, 870 feet long and 70 feet apart. About one third of a mile south is a truncated pyramid, 120 feet square at the base, 9 feet in height, and a small circle, 250 feet in diameter, with an entrance from the south 30 feet wide. The sides of the pyramids correspond to the cardinal points. The circle has a ditch interior to the embankment. It has also a semi-circular embankment interior to the ditch, opposite the entrance. The group is so disposed as to command a fine view of the river terraces below it. The head land seems to have been artificially smoothed and rounded. See Plate III.

It is difficult to determine the design of these works. The most plausible theory is that the truncated pyramid within the

square enclosure was the site of a temple or depository for the dead; that the small circle and small pyramid were covered with religious houses resembling rotundas; that the parallel lines were devoted to the trial of prisoners or captives, and that the whole group was used for religious purposes.

We pass from this region to Circleville (see Fig. 20), at the head of the Scioto River. Here was formerly a group of mounds which were the first ever explored. The exploration called attention to the ancient works of the State. Here were a large circle and square. Within the circle the conical mound, surrounding the mound a crescent-shaped fire-bed or pavement, composed of pebbles extending six rods from the base of the

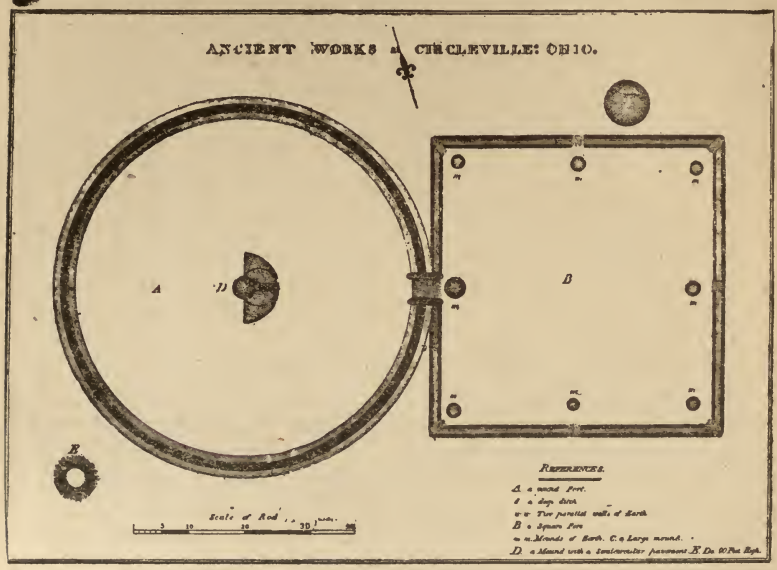


Fig. 20.—Circle and Crescent at Circleville.

mound. Over the pavement was a raised way, which led from the area of the enclosure to the summit of the mound, the inclined passage or bridge making the ascent easy. The crescent pavement attracted attention and was a very interesting feature of the work. It may be that fire was kept burning in this pavement and that the passage to the summit of the mound was through the fire. Atwater says that the pavement was east of the central mounds and extended six rods from it. The mound was 10 feet high, several rods in diameter at the base; 26 feet in diameter at the summit. The circle was surrounded by two walls, with a ditch between,—the height being 20 feet from the bottom of the ditch. They were picketed. The walls of the square were 10 feet high, and had eight gateways with watch towers or mounds, 4 feet high, inside the gateways.

Two human skeletons were found lying on the original surface of the earth, with charcoal and wood ashes, several bricks, well burned, a quantity of spear heads, a knife of elk's horn, a large mirror, made of mica, three feet in length, one and one half feet in breadth, one half inch in thickness. The skeleton had been burned in a hot fire, which had almost consumed the bones. The tumulus outside of the circle contained many skeletons that were laid horizontally with their heads toward the center, feet out. Beside the skeletons were some stone axes, knives and perforated tablets. The fosse near the mound, which contained skeletons, was semicircular in shape.

Here, then, we have the symbolism of the fire cult, of the moon cult, and the solar cult, and we imagine the ceremonies observed were symbolic. It was the custom of the East to make the victims pass through the fire. It is possible that the same was practiced here, and that human sacrifice was offered on this mound. The crescent pavement is to be noticed, for there were others resembling it. Mr. S. H. Brinkley speaks of a pavement surrounding a large mound, near the Big Twin Fort. This pavement was to the east of the mound and was crescent shaped; it was ninety feet in width, and extended under the foot of the mound. To the west of the mound, on the edge of the bluff, and below the bluff, was an immense heap of ashes, ten feet deep. The mound was elliptical in form and was perched upon the brow of the bluff in a sightly place. Mr. Brinkley thinks the ashes were the result of cremated remains; and he is a very careful observer. From the quantity of ashes, we judge that the fire must have been long continued. Here, then, we have again a crescent shaped pavement associated with fire and ashes. The significance of these different works will be understood if we compare the rites and the ceremonies of the sun worshippers of this district with those which prevailed in Syria and Phœnicia, in Old Testament times. The pavement of the crescent suggests the idea that the victims passed through the fire. The ashes within the mound suggest human sacrifices. The position of the bodies indicates that they were sacrifices to the sun. The height of the works suggest the thought that there were temples upon them which were devoted to the sun.

REESE LIBRARY OF THE UNIVERSITY OF CALIFORNIA.

CHAPTER XIV.

MOUND-BUILDERS' AND INDIAN RELICS.

The study of the archæological relics of the Mississippi Valley furnishes to us a very interesting field, and brings before us many points of inquiry; but no one of them is more interesting than the one set before us in the title of this chapter. There are, to be sure, a few relics which remind us of the distinction between the paleolithic and the neolithic ages in Europe; these have been discovered in so many places that they require us to adopt this classification in America. The large majority of the relics, however, are those which belong to the neolithic age, though, perhaps, if we were to make the distinction between the stone age and the copper age, we might say that the relics belong to this rather than the former age. The enquiry as to whether there is a difference between the Mound-builders' and the Indian relics is an old one. Opinions upon it have drifted from one side to the other, the pendulum vibrating to either extreme. Just at present the opinion seems to be setting toward the removal of the distinction. At the next turn, however, it may be that the distinction will be the more clearly brought out, and the differences between the two be more striking than ever. Even if we call them all Indians, we shall by and by see that the Indians differed radically among themselves, and may therefore well be called by different names. We might claim, to be sure, that the Mound-builders were occupants of the Mississippi Valley at a time anterior to the historic Indians, as there were prehistoric races west of the Mound-builders' territory who were anterior to the historic. This was probably the case with the so-called Zuni Indians, and was certainly the case with those Indians whom we call the Pueblos and Cliff-dwellers. We call them Pueblos and Cliff-dwellers just as we call these Mound-builders, but not so much because they were different from Indians, but because they built different structures and lived at a different period.

I. Our first point will be that the terms Indian and Mound-builders are correct, and may properly be used. The following arguments, we think, will show that the terms are correct.

1. It will be acknowledged by all that there was a time when mound-building was a common custom, and that there came a time when the custom ceased. This fact, we maintain, establishes

a mound-building period. The question we ask is whether the existence of such a period is not sufficient reason for us to use two terms, namely, the Mound-builders and the Indians, making the first significant of the people who lived during the mound-building period, but the last significant of the people who lived after that period. This may be a new use for the term Indian, and yet if the term Mound-builders should be made definitive, we see no reason why the last term should not also, especially as the time of the cessation of mound-building is not taken into the account, the only point being the use of the terms. There are, to be sure, other terms which might be used to express the same fact, yet these terms are also very suggestive. We fix upon the date of discovery as the time when the prehistoric age ceased and the historic began; there was a time, however, which intervened between these two, or which overlapped the two, to which we give the name proto-historic. This makes three terms, each of which is expressive of periods as well as of people who lived during these periods. The Mound-builders we may regard as the people who lived during the prehistoric period; the Indians the people who lived during the protohistoric age; the whites the historic people. These three terms we consider appropriate as indicating the periods, two of which have been freely ascribed to distinct people, namely, the Mound-builders and the whites. The question we ask is, Is it not as correct to ascribe the middle period to the Indians, and to say that they were also a distinct people.

2. The contrast between the proto-historic relics and the prehistoric will be brought out more fully if we apply the term "Mound-builder" to one and "Indian" to the other. The absence of the white man's influence would be distinctive of the first, and the increasing evidence of it would be distinctive of the second class. This line has not always been drawn. With some there is a tendency to carry the white man's history as far back as possible, and to trace the evidence of the white man's touch into the earliest part of the Mound-builders' period, the effort apparently being to prove that many of the mounds were built after the time of the discovery. The truth is, however, that in nearly all parts of the country, the line which divides the white man's work from the aboriginal, is the line which separates the protohistoric from the prehistoric, and should be so recognized. That line may be at times found deeply embedded in some of the mounds, one portion of the mound having been built after the time of the white man, and another portion before that time; but the fact that there are so many relics discovered in the mounds which bear the traces of the touch of the white man, proves that the period we are erecting was an important one. If the white man's history is recorded in the proto-historic tokens the history of the Mound-builders is recorded in the prehistoric tokens

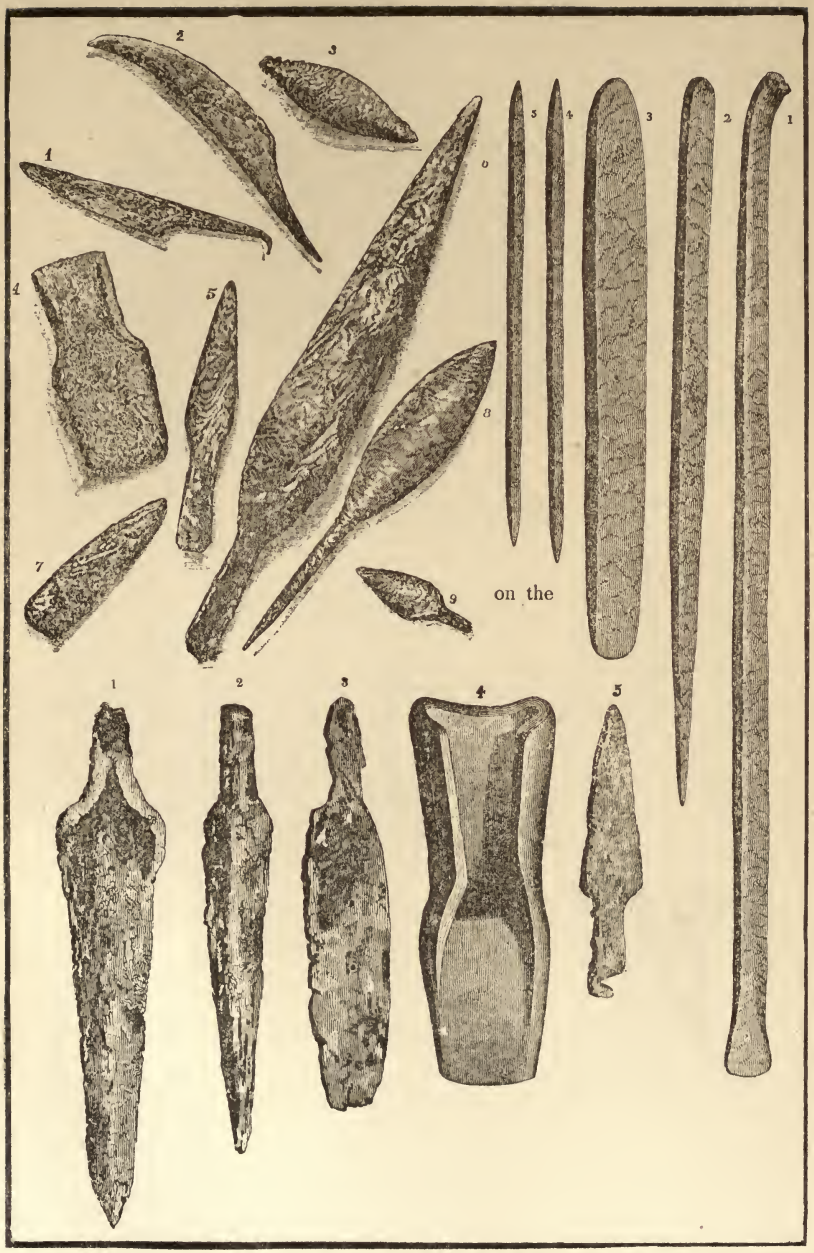


PLATE V.—COPPER IMPLEMENTS FROM WISCONSIN AND OHIO.

PLATE VI—MACES AND BADGES FROM OHIO AND TENNESSEE.

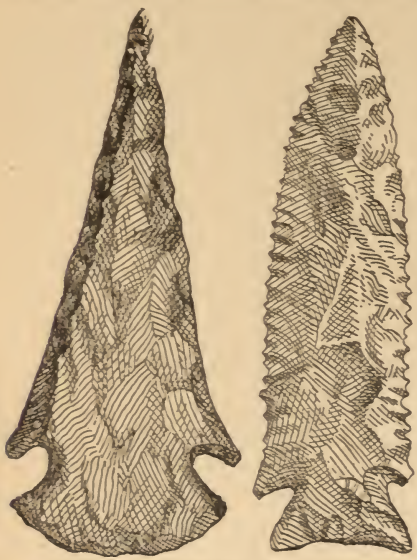
REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA.

which preceded them, the border line between the historic and the prehistoric being Indian. It may be very indefinite and shadowy, yet we may take the ground before hand that there was a Mound-builders' period and what might be called a modern Indian period.

3. The fact that the Indian was associated with the white man during a large portion of the protohistoric period, we think, is enough to prove that the terms "Mound-builder" and "Indian" are appropriate. The Mound-builder had a history which was unique, but the Indian, so-called, also has a history, notwithstanding the presence of the white man. The character of the art which was introduced at an early date and copied by the aborigines and embodied in their relics was, to be sure, very rude compared with that which had existed earlier; but the very advance of the white man's art had a tendency to overshadow and supplant the aboriginal art. Now we have only to apply the term Indian to this deteriorated art, as we do Mound-builder to the art before it had deteriorated, and we shall at once notice a marked distinction between them. The Mound-builder changed to Indian merely by contact with the white man. Still, his art would be different from that of the Indian. Even if it was the presence of the white man that dismissed the Mound-builder's art and the same presence that made the Indian art what it was and is, still, the distinction is plain. The Mound-builders, technically speaking, were unacquainted with the white man, the Indians, as we understand them, were well acquainted with him. This distinction can be recognized. The natives seized the inventions of the civilized races and adapted them to their own uses, covering them with their own barbaric imagery and giving to them that rude shape which was the result of their own native cultus, but which could not hide the evidence of the intruded cultus of the white man. There was a symbolism among the native race which did not immediately pass away. Some of it was unconsciously mingled with the art forms which were introduced. The mingling of this earlier symbolism with a symbolism which was introduced has brought much confusion into the archæology of the period. Yet this of itself constitutes a history, as it shows how the Mound-builder system became merged into the Indian.

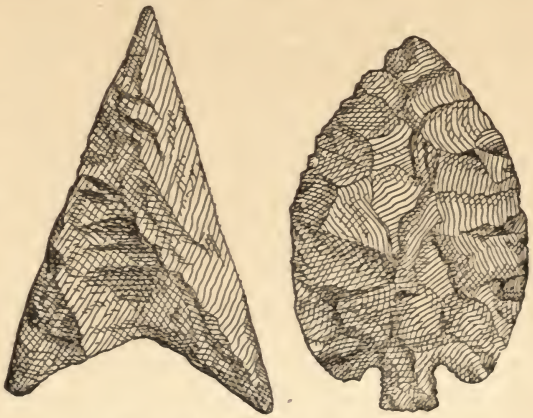
4. The history of this country has been written from the side of the white man—a history of the civilized races, but the relics bring us into contact with the history as recorded by the "red man," the relics being the archives in which those records were kept. The Europeans who came to this continent at an early day were not like the Europeans of the present day, nor would the works of art or industry which they introduced be regarded as equal to those which we are accustomed to call modern inventions. These rude and antiquated relics which we call proto-

historic are, however, different from the prehistoric, and so we we have the three records contained in the relics, the Mound-builders' record being contained in the prehistoric, the record of the modern Indian and early settlers in the protohistoric, and the record of modern civilization in the historic.



Figs. 1 and 2.—Indian Arrow Heads.

5. The degrees of culture which have prevailed in prehistoric times are brought out by acknowledging the distinction. We find that the prehistoric races were not improved by their contact with the white man. Their native art rapidly declined, and the borrowed art did not seem to improve it. The natives chose only the rude specimens, and made these a substitute for the better specimens of their own work, and so took the poorest and left out the best. The archæologist who gathers relics is oftentimes very much puzzled by this means. He recognizes the native handiwork; he also recognizes the intruded cultus; and yet the combination of the two presents to him a mongrel lot of relics which are of little value for the study of prehistoric archæology, and of still less value for the study of early history; and yet it seems important that these relics should be gathered. The lesson is plain. The red man has declined, and the white man has advanced.



Figs. 3 and 4.—Indian Arrow Heads.

6. This contrast between the Indian relics and the Mound-builders reveals the history of the lost arts. The reason they were lost was because of the change from the prehistoric to the historic period. The motive, spirit, form, execu-

tion, of prehistoric relics were all different from anything which can be called historic. If we would understand the lost arts we must go to those relics which are purely prehistoric. Changes may, to be sure, have occurred during prehistoric times, but greater changes occurred during the protohistoric. This may be seen by comparing the Indian relics with those which have come from the mounds. The Indian relics are inferior to the Mound-builder's. This may be owing to the incursion of savage hunters, who drove off the sedentary population and took possession of their works, or it may be owing to the intrusion of white men, who came in and transformed the entire life of the aborigines. The history of the lost arts is contained in both periods.

Fig. 5.—European Portrait Pipe.

Deterioration is strangely stamped on all the works of the red Indian. The hunters deteriorated in their skill as hunters. They abandoned their game-drives, which were built of earth and took to constructing temporary screens made from brush and the branches of trees. They exchanged the bow and arrow for the rifle; no longer hunted on foot, but went with their ponies, moving their villages with them. Their stone relics gradually disappeared, and iron weapons which they borrowed from the white man took their place. The agriculture deteriorated. The large fields which formerly surrounded their villages were reduced to small patches of corn. Their garden beds, which were so regular and covered such large plats of ground, were reduced to mere hills of beans and squashes. The large hoes and spades which, as agricultural tools, are regarded as interesting works of

art, were abandoned, and the rudest kind of iron hoes were used in their place. The military skill deteriorated. The great forts, with the elaborate gateways, which had formerly protected the Mound-builders, were abandoned. The stockades of the Indians which were known to history took their place. The elaborate spears and arrows, maces and military badges soon disappeared, and were supplanted by iron tomahawks, leather belts, steel knives and tin buckles. Gunpowder, which was introduced from Europe, changed the mode of warfare. The long spear and the war club may have continued for a time, but they were used more as badges of office and as ornaments than as weapons of war. The head-dresses made of plumes of noble birds, such as the eagle and the hawk, and which showed the ambition of the chiefs, were exchanged for turbans of cloth and various nondescript head gear. The imagery of the native art does not improve by the modern semblances. If the Mound-builder became the Indian, the red Indian is a poor specimen of what the Mound-builder was, for deterioration is written over his entire form, and his dress, his ornaments, his weapons. his badges, his accoutrements and his *tout ensemble* furnish a mere travesty on the native grandeur which has passed away. We maintain that the Mound-builder was a better specimen of the Indian than the native Indian himself, and so we should retain the name, even if we granted the premises, that the Mound-builders survived the Indians.

Fig. 6.—French Portrait.

7. The difference between the Mound-builder and the Indian of modern days is very striking, when we come to compare the relics of the earlier and the later periods. We take the entire protohistoric period as indicative of the transition, and study the relics which belong to this period. We then take these with the relics which are purely prehistoric, and learn from them the cultus which prevailed during the prehistoric period. The comparison is very instructive, though there is a difficulty in separating the one from the other. Yet if we place the prehistoric on one side and the historic or protohistoric on the other, making two classes of the relics, we are obliged to say that the two are very distinct and should be designated by two distinct terms, and we know no better terms than those we have adopted, namely, Mound-builder and Indian.

Fig. 7—Chinese Portrait.

II. We turn now to another point. The geographical distribution of relics, proves that there was a distinction between the Mound-builders and the Indians. There are localities in which the relics are mainly those of the Indians known to history. There are other localities where the relics are mainly those which are supposed to have belonged to the Mound-builders. This fact, we think, is a sufficient reason for us to establish the two classes, and to call one Mound-builders' and the other Indian relics.

Fig. 8.—Grotesque Portrait.

1. Let us take up the subject of locality. It is well known that the Mound-builders' territory was confined to the Mississippi Valley, but that the region east of this valley, especially that along the Atlantic coast, was occupied by a people who differed from the Mound-builders and who resembled the modern Indian. This makes a geographical division between the two classes. We think this will be acknowledged by all. The question is, however, whether this distinction between the two classes of people can be recognized in the relics found in these separate districts, and whether the testimony of history is confirmed by archæology. This is the question which we are now to consider. We would say, however, that there are some exceptions to this rule and that the exceptions must be considered if we would prove the rule. We first look at the region situated in New York and in Florida and say that here the Mound-builders wandered out of their territory toward the northeast and the southeast, but, nevertheless, we conclude that the sea coast was held by the Eastern Indians and not by the Mound-builders. So, too, we find in the interior the many relics which we may suppose were left there by the Eastern Indians, and we say that these tribes must at times have overrun the Mound-builders' territory, and yet we do not hesitate to ascribe the interior to the Mound builders rather than to the Indians. This is our first point. The geographical lines seem to have separated the two races, notwithstanding the many exceptions to the rule. Our second point, however, is more conclusive than this. We are to take the relics which have been gathered in one district, the district which we have ascribed to the Indians, and are to com-

Fig. 9.—Grotesque Portrait.

pare these with the relics which have been gathered in the Mound-builders' territory, and see if these are not different enough for us to make two classes of them. On this point, we furnish evidence from two collections, and ask the attention of our readers to the illustrations offered. Of course, it will be expected that in each collection there will be more or less of mingling of relics, but the question is, do not the collections show a marked difference, so marked, indeed, as to convince us that the art of the two districts was very unlike and the people also very unlike.

Fig. 10.—Mound-Builders' Portrait.

We have received a series of cuts from the Canadian Institute at Toronto, many of them illustrative of relics discovered in the region surrounding that city. These we consider to be Indian relics, at least the majority of them. We propose to institute a comparison between these relics and those which have been discovered in the interior, especially in Ohio and its vicinity, which is emphatically the Mound-builders' region, to see if there were not differences between the two districts. In drawing the comparison we shall, however, place the relics found near Toronto alongside of others found in Lower Canada, making one class. We shall also take the collection which has been described by Squier and Davis in the book called "Ancient Monuments," and compare these with others which have come out of the mounds in more recent times, and make from them a second class. We shall take the position that the first class belongs to the Indians, the second to the Mound-builders. Our reasons for doing so will be apparent as we proceed. In reference to the first collection, we may say that there are many traces of contact with white men, but it is almost impossible to distinguish the modern from the ancient. In reference to the second collection, there is no such trace and we must regard them as purely prehistoric. A comparison has been drawn between the relics in

Fig. 11—Bird Shaped Pipe.

the Canadian Institute and Iroquois relics which are scattered throughout the State of New York, and resemblances have been traced. This is very natural, for the Hurons, who formerly dwelt in the region about Toronto, and to whom these relics probably belong, were akin to the Iroquois, having been originally a tribe of the same stock. There are probably some Algonquin relics in the second collection, as the Algonquins frequently visited the region. These are not Mound-builders' relics, but they are exceptions and seem to be out of place.

Fig. 12.—Cherry Bird Pipe.

We regard many of these Eastern relics as modern Indian, and as interesting on this account. The region was overrun by different tribes—Hurons, Iroquois, Algonquins. It is a region in which the French came in contact with these tribes and gave to them many specimens of art, mainly weapons of war and industry. These were taken and used without change. But there were also various ornaments, and other relics, such as pipes, maces, badges, which the French did not introduce. These were the works of the natives, but they were modified and were covered with modern ornamentation, some of them made to imitate modern European forms and faces; and yet they are classed with the prehistoric specimens. We call them protohistoric; not that they are all of this character, but because it is impossible to distinguish the prehistoric from the historic. Ancient and modern forms are so mingled together in the collection that it becomes a book in which we are to read the record of the protohistoric period. This gives great value to the collection, and makes it unique.

Fig. 13.—Modern Pottery Bird Pipe.

We may say that three periods have left their record in the collections: the prehistoric, the protohistoric and the historic, and yet strangely the three records are very similar. This we think

proof that the Indians of this region were always different from the Mound-builders of the region to the west of it, the two collections showing a great contrast. With reference to the Mound-builders' region the same can not be said. If we take the locality where Mound-builders have prevailed, we find a great contrast between the earlier and the later relics, the earlier relics being supposed to belong to the Mound-builders, but the later relics to the Indians. This subject of the sequence of history has been referred to by other writers. To some, it seems to prove that there was a great difference between the races; to others it seems that there was no difference whatever; but in our opinion the study of the relics will prove the correctness of the position which we have taken,—the differences depend altogether upon the locality we are studying.

Fig. 15.—Portrait.

Fig. 16.—Glass Stopper.

Fig. 17.—Glass Stopper.

Sir William Dawson has spoken of the village of Hochelaga. He gives the history of the village and an account of its discovery by Jacques Cartier in the year 1534. Sometime in the interval between 1535 and 1642 Hochelaga was utterly destroyed and the encroachments of the warlike Iroquois made the island a sort of frontier or debatable land, on which no man lived. The Hochelagans were not precisely either of the Iroquois or Algonquin stock, but a remnant of an ancient and decaying nation, to which the Eries and some other tribes belonged, and which had historical relations originally with the now extinct Alleghans or Mound-builders. Dr. Dawson draws the line between the Alleghans and the Hochelagans, and says that they were bounded on the north by the Algonquins, but thinks that there was a belt of semi-Alleghan and semi-Algonquin territory along the great lakes and the St. Lawrence, the people inhabiting which had borrowed some of the habits, arts and modes of life of the Alleghans or Mound-builders. To this probably belong such nations of Agricultural and village-dwelling Indians as the Eries, the

Neutrals, the Hochelagans. This distinction is one which perhaps will aid us in our study of the relics. We take these traditionary tribes and find that their relics give no trace of contact with the white man. They were "Hochelagans". By placing them between the Indians that are known to history and the Mound-builders, who are unknown except by name, we may be able to distinguish three races one from another. The affinities of the Alleghans or Mound-builders have been studied by Sir William Dawson. They have been pronounced to be Toltecan. They resemble, however, modern Indian as much as they do the Toltecan races. The relics of the Alleghans or Mound-builders differ very much from the relics of the Toltecs. The pottery of the Hochelagans is certainly superior to that of the modern Indians, but it does not equal that of the "Alleghans". The pipes of the Hochelagans were generally earthern and have a peculiar shape—generally trumpet shape. The Mound-builders' pipes were very different from these. The copper axes, spears, and knives of the Alleghans or Mound-builders are certainly very different from the stone knives of the Hochelagans. The badges, maces and other ornaments of the Mound-builders are certainly superior to any of those which are found near Hochelaga.

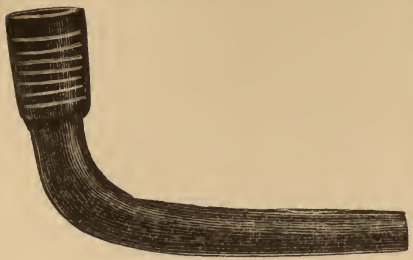


Fig. 18.—Trumpet Shaped Pipe.

Fig. 19.—Trumpet Shaped Pipe.

We maintain that there is a history of the Indians and the Mound-builders, and that this history is seen in the relics as well as in the portraits. Let us take the different relics for our illustrations. There are very many relics found upon the surface. The majority of these probably belong to the later Indians. There are also many relics found in graves. We ascribe the graves to the wandering tribes of Indians, some of them to tribes who have just disappeared. The relics found in the graves are fre-

quently mingled with historic articles, showing that the graves were subsequent to historic times. There are many relics found in bone pits, We ascribe the bone pits generally to Indians. The Iroquois, we know, buried in bone pits. There are relics found in stone cists. These stone cists or graves are widely scattered; they have been generally assigned to the Shawnees; we may safely say that the stone graves belonged to modern Indians. There are many relics found in the top of mounds. These are generally supposed to belong also to modern Indians. It is a mistake to suppose that the mounds were all built at one time, or that any one mound was finished with one burial; there were many burials in the mounds, and each burial furnished a new record to the mound, several burials having been made before the final record was completed. The burial mounds along the Mississippi River, which have been examined by the author, have all of them contained several burials. The bones and the

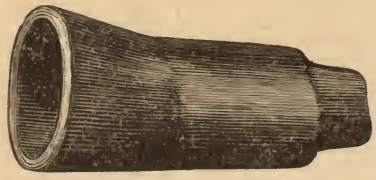


Fig. 20.—Trumpet Pipe.

Fig. 21.—Tube Pipe.

relics contained in these mounds were evidently deposited at different periods and belonged to different tribes of Indians. There is a history of the country contained in the mounds, the history of the tribes which formerly inhabited the country. The author imagines he has discovered the bones of several different tribes of Indians—Sacs and Foxes, Illinois, and Dakotas, all of them tribes whose names are known to history. The original Mound-builders' bones were, however, lower down than any of these burials, and the bones found in this lowest layer have seemed to be different from those found in the upper layer. In some cases the upper layer belonged to the historic period, the lower layer belonged to the prehistoric. The difference in the bones and relics of the prehistoric and historic periods would seem to indicate that the Mound-builders and the Indians belonged to different races.

III. The character of the relics in the different districts may well be considered.

First, the material. In the Montreal district a large majority are made of pottery. In Ohio the pipes are mainly of steatite. There are very few pottery pipes in the Mound-builders' collection. In the Davenport district, pipes are mainly of steatite or of catlinite, and in this respect the Davenport collection resembles the Ohio much more than it does the Montreal district.

The modern semblances are recognized in the portrait pipes more than in any other. We find them, however, in the Toronto collection. We call attention to the modern European faces in the New York pipes. Some of these faces resemble French, Spanish, some English types (Figs. 5, 6), though it is a question whether this was intended. In two of the cuts the Indian faces may be recognized. In the relics from the mounds of Ohio there are no modern portraits, at least no portraits of the white man, though the Mound-builder's face in one may be said to resemble the Dakota Indians and in the other the face of a Shawnee. This would indicate that the Mound-builder tribes may have been followed by modern tribes, the features of original races having been perpetuated even to the present day. If we grant this, we must acknowledge that they were different tribes from the Eastern Indians. See Fig. 10.

Fig. 22.—Tube Pipe.

Fig. 23.—Flat Pipe.

The grotesque qualities which are found in the modern Indian are noticeable. Very few such grotesque images are found in the Mound-builders' relics. The sportive element was evidently in the ascendency when these pipes were made. The artist took a nodule of stone, and, finding a resemblance to a face in it, he turned it into a grotesque image. In one case he used the mouth as the bowl of the pipe, filled it with tobacco, and smoked it out of the back of the head. See Fig. 8. In another case he made a caricature of the eye (see Fig. 9), and used the pipe with its comic features out of mere wantonness or sport. A third pipe had its portrait toward the smoker (see Fig. 5), but its semblance can not be easily recognized. It may have been either a native American or European. The square form of one pipe would indicate that it was a modern product. The spike in the center of the pipe would suggest the phallic symbol, but in a modern pipe would be without significance. The grotesque pipes have been described by Mr. E. A. Barber. The most of these are modern Indian, New York State being the source of the majority of them.

Two more portrait pipes are given. One is a pottery pipe, with a face resembling a white man's. Another is a carved specimen, and looks like a Chinese with a turban. This last was from a piece of limestone, and is almost black. The head-

REESE LIBRARY OF THE

dress is quite unlike any Indian. The specimen is as beautiful as it is remarkable, so says the curator. See Fig. 7.

2. We take up the animal pipes. The contrast here is very marked. We find that the Mound-builders were very skillful in imitating the shape of animals. The collection which is now in the Blackmore Museum of England has many pipes representing animals. These pipes are well wrought, and contain excellent imitations of the animal figures. The habits of the animals are brought out as well as the shapes. The Davenport collection has many animal-shaped pipes. The animals represented in the Mound-builders' relics are, some of them, extralimital, toucans, manitees, showing that they were familiar with birds and animals found only in Mexico and the Gulf States. The majority of the animals are those which were common in the valley of the Ohio and Mississippi—turtle, frog, toad, otter, lynx, bear, beaver, hawk, cherry bird, wood-pecker,

Fig. 24.—Flat Pipe.

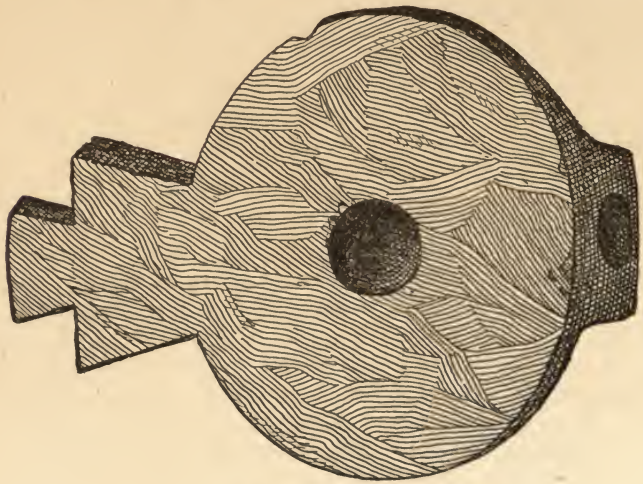


Fig. 25.—Flat Pipe.

duck, swallow, heron, fish-hawk, rabbit, wild cat, squirrel, owl, alligator. The pipes from New York and Ontario are, some of them, imitative of animals, but they are generally poor imitations. We have three imitative relics before us. It is almost impossible to recognize the creature represented. In one case we have

PLATE VII.—POTTERY FROM ARKANSAS AND MISSOURI.

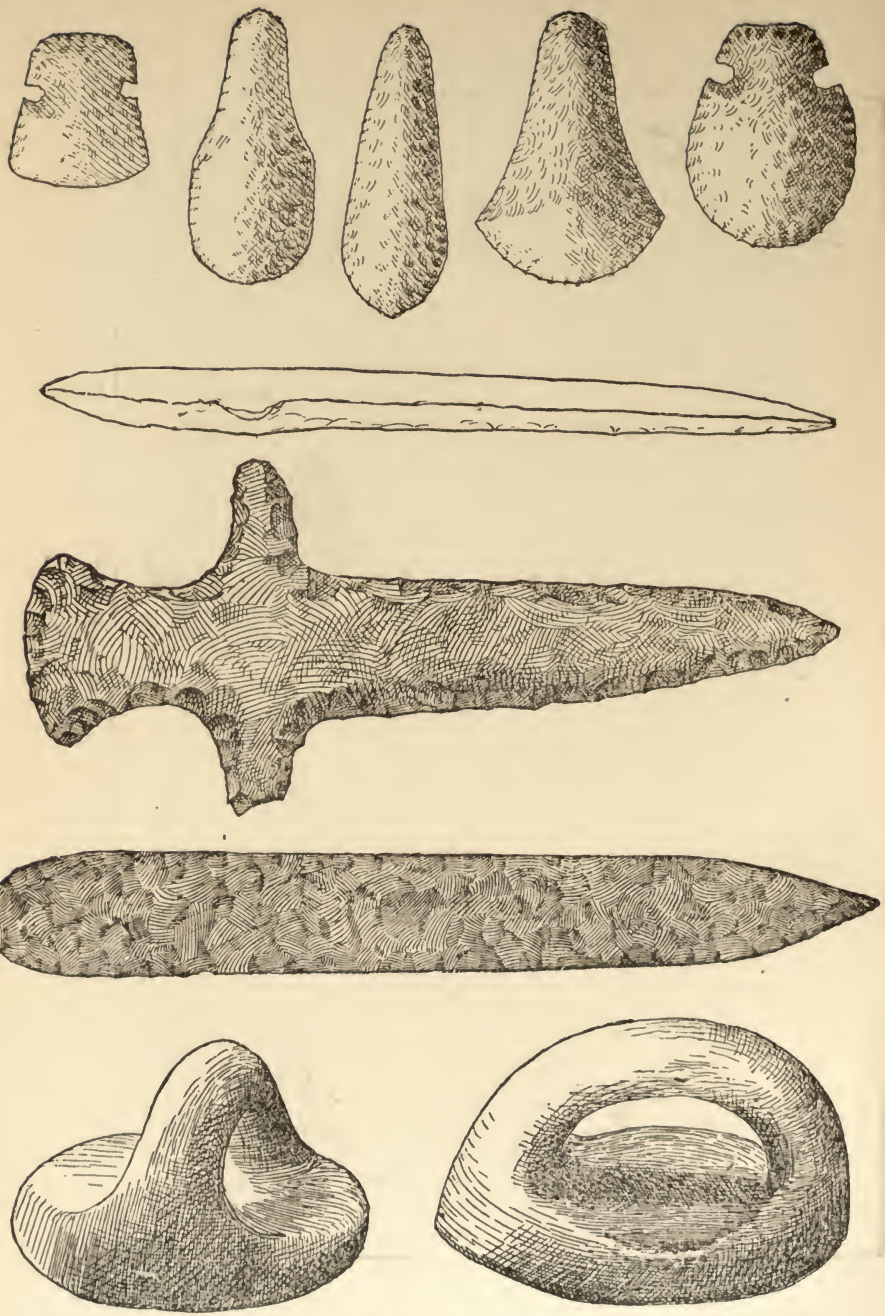


PLATE VIII.—RELICS FROM THE STONE GRAVES.

the short bill of the bird, in the other we have the tail of the bird and a rude imitation of the bill. In the third we have the neck, head and eye of the bird, but a poor imitation of both. This last is a pottery pipe, and is very rude. See Figs. 11 and 13. They show the imitative skill of the Indians of this region. The wood-pecker and the cherry bird, which are from the mounds of Ohio, will show the contrast. See Fig. 12. It is evident that the Mound-builder's skill was much greater than that of the Canada Indians.

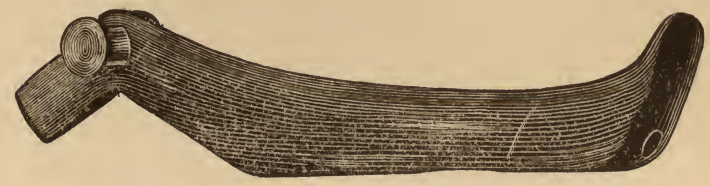


Fig. 26.—Brooding Ornament.

3. The shape of the pipes is next to be considered. There are various shaped pipes, which may be recognized as modern by the shape. As a general thing, a pipe which has straight sides, sharp angles, looking as if they were sawed, like the one given in Fig. 5, will be regarded as a modern pipe. There are many such pipes throughout the country. Some of them have panels, and some have plain sides. Squier and Davis have described a few, but they were pipes which were known to belong to certain historic Indians. The pipe of Keokuk is depicted in this book. Mr. E. A. Barber has described other pipes from Lake Superior, and Mr. Catlin has described many others. These were the pipes of Mandan chiefs. All of them had straight sides and a bowl at one end; the material was catlinite. A pipe which has

Fig. 27.—Brooding Ornament.

the shape of a glass stopper seems to be common. Figs. 16, 17. These are evidently modern, and have the appearance of having been turned in a lathe, as the bands are all parallel, and the bowl is divided into different parts. No such pipe was ever found among genuine Mound-builders' relics. It can not be called a prehistoric specimen.

The trumpet-shaped pipe: This is a shape which may be

either modern or ancient. We present two specimens from the collection. See Figs. 18 and 19. The first has ornaments and bands on it, and was evidently made by some Indian. The shape of the pipe was, however, so much like the common clay pipe of the white man that we place it among the modern semblances. A pipe from a mound in Sullivan County, Tennessee, has, however, been described by Dr. Cyrus Thomas, which has a bowl like this one from Ontario, but its stem has flanges or wings on either side, making it resemble both the Mound-builder's pipe and the white man's pipe. This was discovered in the midst of the stone heaps which have been ascribed to the Cherokees, and was undoubtedly a Cherokee pipe; possibly was made after the advent of the white man. Mr. A. E. Douglass has also described a trumpet-shaped pipe from Mexico, though it is uncertain whether it is prehistoric or historic. The trumpet-shaped pipe which is next given is perhaps typical of these. See Fig. 18. Sir William Dawson has described a number of these. He says that the highest skill of the Hochelaga potters was bestowed on their tobacco pipes. They possessed pipes of steatite or soapstone, but none of elaborate form have been found. One example of a trumpet pipe, made of catlinite, is given. See Fig. 19. A great number of fragments of clay pipes bearing the trumpet shape show that this was a common form. See Fig. 20.

Fig. 28.—Saddle Shaped Stone.

It will be noticed that the pipe has the shape of a war club, the bowl constituting the head of the club, the stem the handle. Two tube pipes are represented. They were probably the pipes of Indians and not of Mound-builders. See Figs. 21 and 22. Another shape is very common among the Indians. It is a pipe which has a flat platform as a substitute for a bowl, the orifice of the pipe being in the center of the plate. Such a pipe as this was regarded in a measure as sacred. See Figs. 23, 24 and 25. The tobacco was placed upon the flat surface, lighted, and the pipe was passed around the circle, for the warriors or council men to blow the smoke out, as a sign of good faith and worship. Such pipes belong to the modern Indians, either to the Algonquins or the Iroquois. They are quite widely distributed. We

Fig. 29.—Indian Mace.

have seen one in the collection at Potosi, Wisconsin. Catlin has pictured one in his book on the Mandan Indians and the Smithsonian Reports speak of other pipes of a similar shape.

We have dwelt upon the description of these relics for the reason that they are supposed to have been typical specimens. The execution of the cuts is, to be sure, somewhat imperfect, and yet the shape of the relics will be easily seen from them. We take the position that the collection as a whole illustrates the peculiarities of the Indian art, peculiarities which are not recognized in the Mound-builders' art. These peculiarities seem to have been derived from prehistoric times, and to indicate that the Indians of this region at least were always different, or, at least, had different types of art, from the Mound-builders. Certainly, so far as the relics can show it, we should say that there was a wide difference between the two classes of people, and that this difference existed in prehistoric times as well as in historic. We might here draw upon history to show the same fact. It is well known that the region we have been describing, and from which these relics were gathered, was the one which was first occupied by the white man. It is the region in which the protohistoric period was most prolonged. There have been, to be sure, a few other localities in which this period was equally protracted, but in none was it likely that so many protohistoric relics would be left as here.

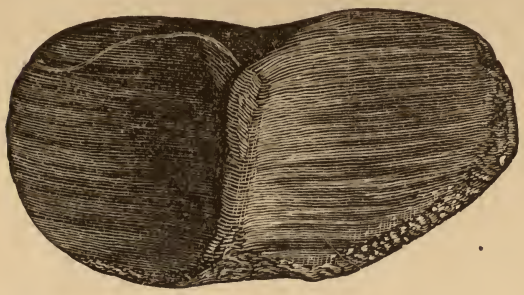


Fig. 30.—Indian Mace.

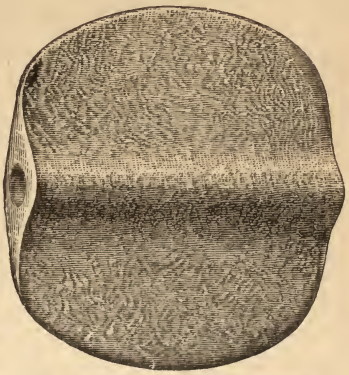


Fig. 31.—Mound-Builder's Mace.

4. There are certain relics which seem to have been widely distributed, but they are at the same time regarded as Mound-builders' relics, for they are sometimes found in mounds and have all of the finish which characterizes the Mound-builders' art. We refer to the saddle-shaped specimens. These are sometimes called brooding ornaments, as the supposition is that they represented birds as brooding, and at the same time were worn as signs of maternity. There is one thing to favor this view of the relics. The head-dress of the Egyptian goddess Neith, who was

the goddess of maternity, was in the shape of a vulture, the wings resting down over the ears, but the head and tail projecting above the head, forming a sort of crown. It is possible that the bird ornament, or brooding ornament, as it is called, was used in the same way. There are portrait pipes which have horns projecting above the head, drapery thrown over the horns and falling down at the side of the head. The question is whether the horns which furnish the support for the drapery were not formed by a brooding ornament, the head and tail of the bird projecting above the head upward, the body of the bird forming the support for the drapery. This may have been one use. Another way of wearing the ornament would be to fasten it on the top of the head, making projections over at the side, as well as above the head, a cord passing around under the chin and over the head. Another way of wearing the ornament would be to place it on top of the head, where it would make a single horn, the three ways of wearing the ornament requiring three different shapes. As an argument in favor of this view, we would mention the fact that brooding ornaments have three shapes, one being in the shape of a saddle, with two projections, but with no bird shape in it; a second would be the bird-shaped ornament, the length and the size varying according to circumstances, but with tail and head both elevated, making two horns; the third case is an imitation of the bird, but the head alone is elevated, making a single horn instead of a double one. We give the following cuts to illustrate these points. We have the bird-shaped amulet in Figs. 24, 25, 26; we have the portraits which show the possible use of these ornaments in Figs. 27, 28, 29. The three shapes of the brooding ornaments are given in the cuts, and the three ways of wearing them can be seen in the portrait pipes. As an additional argument, we would refer to the method of wearing the hair which was common among the Pueblo women. There is a roll above or over the ears, which resembles the projections at the side of the bird's head, and at the same time resembles the spool ornaments which are so common in the mounds. These spool ornaments are remarkable relics. There was evidently a symbolism about them, a symbolism which was very widespread. We

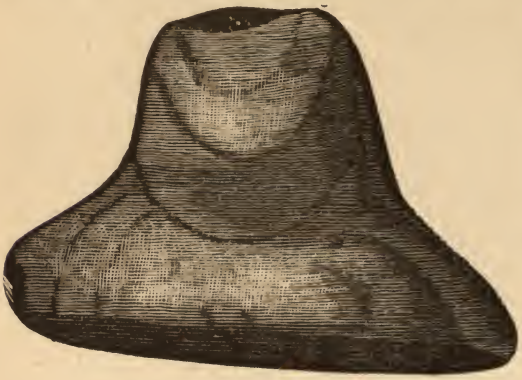


Fig. 32.—Monitor Pipe, Indian.

take the spool ornaments, the brooding ornament, and compare them with the Egyptian head-dress. We then take the Pueblo manner of wearing the hair, and the various pictures, and place them together, and ask whether there was not a symbolism in all this, a symbolism which possibly had a common source in some historic ancestry. This explanation may not be accepted by all. A few bird amulets have been found which in shape contradict it. There is a bird amulet in the possession of Mr. L. O. Bliss, of Iowa Falls. It consisted originally of three pieces, the top piece being in the shape of a duck with a flat back, the middle piece being a mere flat tablet, resembling the perforated tablets, the lower piece being boat-shaped, resembling the boat-shaped relics which are so common. The explanation of this remarkable relic is that a duck was placed upon the boat-shaped relic, and

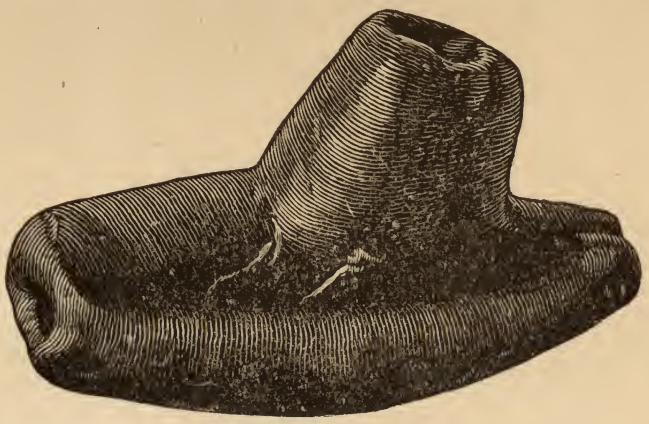


Fig. 33.—Monitor Pipe, Indian.

could be rocked in a way to resemble the floating of a duck on the water. The relic, remarkable as it is, does not in reality contradict the explanation which we have given. The duck might be taken as a symbol of maternity; it is a very common symbol, not only among the Indians and Mound-builders, but among the Peruvians. It would seem as if this idea of representing maternity by the brooding ornament or bird-shaped head-dress was very widespread.

The question arises whether these were Mound-builders' or Indian relics. In answer to this we would suggest that if they were Mound-builders they are very interesting specimens, since those which are undoubtedly Indian are much ruder than those which were Mound-builders'. We call attention to the brooding ornaments from the Canadian Institute at Toronto as compared with the ornaments in the Blackmore Museum, described by E. G. Squier in "Ancient Monuments."* Still, we would say

*Page 239.

that Dr. C. C. Abbott has mentioned the prevalence of these brooding ornaments in New Jersey, found on the sites of the ancient Indian villages in New Jersey.† Mr. Henry Gilman also says of these bird-shaped stones: "I have learned through an aged Indian that in olden times these ornaments were worn on the heads of the Indian women, but only after marriage; the figure of a brooding bird was a familiar sight to the children of the forest." Dr. Edward Sterling, of Cleveland, says: "Such bird effigies made of wood have been noticed among the Ottawas of Grand Traverse Bay, Michigan, fastened on the top of the head of the women as an indication of maternity." Wm. Penn says: "When the young women are fit for marriage, they wear something on their heads for an advertisement, so that their faces are hardly to be seen, except when they please." Dr. Abbott speaks of one bird-shaped stone found in Vermont, another found near Trenton, New Jersey, another in Cumberland County, New Jersey. This was intended to represent a diver or duck with a long neck. A very beautiful specimen was recently dis-

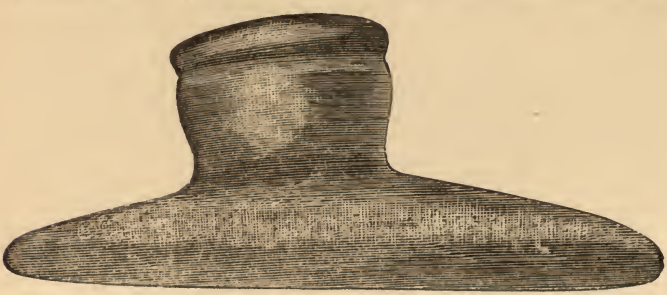


Fig. 34.—Monitor Pipe, Indian.

covered by Mr. Thompson in Michigan. After considering the great number of these relics, and the fact that they are found upon the surface, we should say that they belong to the modern Indian rather than to the Mound-builder.

5. The next class of relics about which there might be a contention as to whether they were Mound-builders' or Indians, is that class which might be called maces or banner stones. These are perforated, and have flanges or wings, but vary in shape, size and finish. They are very widely distributed. Some of them are found in Canada, others in Florida. In fact, they are common all over the Mound-builders' district. It would seem as if some of them were made by modern Indians, but that in making them they only perpetuated a native symbol, or ensign of office, without preserving the skill which formerly had been exercised in finishing them. We call attention to the specimens which are furnished by the Canadian Institute as compared

†See Abbott's Primitive Industry, pp. 372-374.

with those described by Mr. A. E. Douglass. It will be seen that the Toronto specimens are much ruder than the Florida specimens. The contrast might possibly be owing partly to the engraver, but not altogether. Of one of the specimens furnished by the Toronto Institute, Mr. Boyle says: "It is an unfinished specimen and is valuable chiefly as another proof that the Indians did not perforate their work until it was almost or wholly finished. This specimen came from Kentucky. Other unfinished specimens have been described by Col. Charles Whittlesey. They were specimens from Ohio. Many broken specimens have been found in various parts of the country. One is in possession of the writer. It came from the region of the effigy mounds. It had been perforated in such a way as to show that it had been carried as a charm by some Indian, who was perhaps unconscious that it had been once used as an emblem of honor or as a badge or mace. These relics have evidently come down to us through the hands of modern Indians from the Mound-builders' period. They illustrate very clearly the point which we have in mind. The Mound-builders' period was distinguished for the superiority of the native art. The modern period is distinguished for the decline of the native art. We may call the Mound-builders Indians, but the difference between the specimens of art which have come down to us from the Mound-builders and those which have been found in the hands of modern Indians prove the position which we have taken. The term "Mound-builders" is an appropriate one, for it suggests a stage of art which was much superior in prehistoric times to that stage which is exhibited by the historic or protohistoric times. One of two things is proved by them. Either the hunter Indians who have come in and taken the place of the preceding tribes were a much ruder class of people than those whom we call Mound-builders, or the Mound-builders have very much degenerated and are not properly represented by their descendants, whom we call modern Indians. This is all that we care to substantiate. We think that the difference between the modern Indians and the Mound-builders is plainly exhibited. We do not claim for the Mound-builders any high degree of civilization, nor do we claim for them

Fig. 35.—Monitor Pipe, Mound-Builder's.

any radical race distinction, but we claim for them a superiority in all that constitutes aboriginal art, and so maintain that the term Mound-builder is to be continued.

6. We now come to the monitor pipe. The difference between the Indian and the Mound-builders' relics will be more fully seen in these than in any other. We furnish several specimens of the pipes (see Figs. 32, 33, 34, 35), which may be said to be imitations or attempts at the monitor pipe, from the Canadian collection. It will be noticed that they are exceedingly rude. The peculiarity of the monitor pipe is that it is composed of one single stone, and was smoked without the addition of a stem; it was a simple specimen, and is contrasted with the compound specimens which were common among the Indians. The advantage of having a simple pipe was that it was easily placed in the medicine bag, where it was out of the way and yet was conveniently present. There was a sacredness about the pipe which made it important to preserve it. The pipes of the modern Indians do not seem to have had the same sacredness; they were commonly carried suspended to the belt, and were often in plain sight. The pipes of the Eastern Indians seem to have been, manp of them, simple specimens—that is, simple as contrasted with compound ones. They were, however, in great contrast with the Mound-builders' pipes, in that they were exceedingly rude. It is possible that some of these specimens are unfinished; that in course of time they would have been moulded into symmetrical shapes, and yet one of them seems to have been designed for the insertion of a stem, and so would be called compound; it was probably Indian We present one specimen of the Mound-builders' pipe, to show the contrast. It is a portrait pipe, but has the typical monitor shape, the main difference being that the bowl is in the shape of a human head instead of a rimmed cylinder. Monitor pipes were very common among the Mound-builders, especially among the Mound-builders of Ohio. They are found in many parts of Illinois, and are numerous in the vicinity of Davenport, Iowa, though the characteristic pipe of that regian is animal shaped.

This closes the review. We think enough contrast between the Indian and the Mound-builders' relics has been shown to convince any one that two classes of people dwelt upon the continent, which were different enough in their art products for us to give to them different names, and so we cling to the terms Mound-builders and Indian.

THE GEST TABLET FROM OHIO.

CHAPTER XV.

SYMBOLISM AMONG THE MOUND-BUILDERS.

The study of symbolism in America always brings up a great many enquiries, but none more interesting than one which has relation to a contact with Europe in prehistoric times. This is, to be sure, a point which is constantly arising in connection with all departments of archæology, but in this conuection it is especially suggestive. We therefore propose to speak of the phallic symbol as it is found in this country, especially among the Mound-builders, and to see if this does not prove a pre-Columbian contact with other countries. We shall not, however, confine ourselves to this one symbol, but shall take it in its combination with other symbols, such as the symbol of fire, of the sun, of the serpent, and other nature powers.

The description of the dolmens and menhirs of Western Europe, which was given a year or two ago by Mr. Thomas Wilson, and now againby Prof. A. S. Pakacrd, has brought up the subject afresh. The same is also the result of reading about the remarkable find on the Illinois River. The question is how came the custom of making offerings to fire and water, and other customs in America? Shall we say that the Druids were here during pre-Columbian times, or shall we go farther back and ascribe them to an Asiatic source?

I. We begin with the cup stones or perforated symbols. It forms one of the standing problems for American archæologists how to account for these. These cavities have been studied by various parties and have been found in many and widely separated countries. It is because of this extensive distribution that they have been regarded as important. The argument is that the prevalence of them in America proves European contact in prehistoric times. The argument is a good one, provided we assign to the cavities a sacred character, and recognize them as the symbols of a widespread faith. This is, however, the point. We imagine that if they were not so widely distributed the thought of their symbol character would never have arisen. The shape of the holes suggests a very simple cause, nothing more nor less than the nut-cracking, which was a natural thing for the natives of this country. The discovery of so many boulders and slabs, filled with these cavities, in Southern Ohio, which is a forest region abounding with all kinds of nuts, naturally suggests that this was the source of the cavities. Perhaps we should say that the question is a *faux pas*. It suggests a mystery when no mystery exists. Still, as various authors have

written upon the subject and European archæologists, as well as American, have regarded them as symbolic, we take up the subject in all candor. It is noticeable that the matter-of-fact and careful Dr. Charles Rau thought it worth his while to write a book about them, and to recount all the places where such holes have ever been seen. From this book we learn that they are scattered over the continent of America, being very common in the Mound-builders' territory. A few specimens are found in the region of the Pueblos and on the rocks of California, and one specimen has been discovered near Orizaba, Mexico. They are also numerous in France, Brittany, Ireland, Switzerland, Saxony, Sweden, Scandinavia, though in these latter countries they are attended with rings and loops and various grooves and channels, as if a special use had been made of them and strange superstitions had been associated with them, making them sacred symbols. We learn, too, that the same works are numerous in India, and that in that country, where everything seems to have a symbolic character, they are regarded with peculiar veneration, and that even phallic worship has been associated with them and the symbol of the Mahedeo is always recognized in them.

Now the point which we make is this, if we must associate so great a significance with so simple an object as a cavity, which seems to have been used for nut-cracking, then we shall conclude that the evidences of contact with older countries during prehistoric times are very common. We can imagine the practice to have prevailed among a rude people of making a very common thing to seem uncommon. The very tools and weapons and ornaments which they had might become the embodiment of strange superstitions, and even feathers and sticks might be expressive. Perhaps there was the addition of a myth or of a transmitted custom, and this would account for the unusual shapes and combinations by which these cavities are sometimes characterized. Still there are figures on the Bald Friar's Rock, in Pennsylvania which resemble serpents, the eyes being cup cavities or perforations, the heads only being visible. In these heads we recognize the jew's-harp pattern, and so we have in America, as in India, not only serpent worship but possibly the phallic symbol, with all of its conventionalities. We are not disposed to minimize the significance of these symbols, and yet we should make a distinction between a practical and a symbolic use.

We find that the symbols are quite widely distributed in America, as widely as they are in Europe, and are sometimes found connected with the cremation of the bodies of the dead, as they are in foreign lands, and are also associated with altar mounds. It is also noticeable that animal figures, human faces and forms, and sun symbols, as well as serpent heads, are associated with the perforated cavities. Dr. Charles Rau has referred to the bird symbol found in the San Pete Valley of

Utah and the peculiar figures found among the rock paintings in Lake County, Oregon, and to the human and animal figures on the sculptured boulders in Arizona. These may all have been symbolic, and it is possible that a common symbolism has spread over this entire continent, either from the east or west, and that the connection may be traced even as far away as India. Still we think that a distinction should be drawn, and that the American symbols should be left to themselves until it can be proved that they were transmitted from other lands.

The positions of these cup marks are, to be sure, sometimes significant, and the association with various pictures is suggestive. For instance, there is a picture of a Scandinavian boat which reminds us of the Norse sea-kings, and a picture of battle axes and a pyramidal *stele* in the Kivik monument in Scania, Sweden. So there are many cup cavities in the roofs of dolmens in France, and Prof. A. S. Packard has declared that these must be symbolic. So there are peculiar figures resembling Runic letters on the Bald Friar's Rock in this country. There are remarkable coincidences also in the shapes of the rings surrounding the cavities which are found in Denmark and Sweden and in this country. Some would make them symbols of the sun, and would prove a contact with European nations or else a remarkable parallel development. Some would also consider the Dighton Rock as still more conclusive, but this rock Dr. Rau is especially skeptical about, taking the position that it was only fabricated by ordinary Indians. It seems to make a complication with our system if there are resemblances to Old World forms in America. Which shall we do? Shall we take the simple facts and be satisfied with these, or shall we recognize evidence of foreign contact in them? We have seen these perforations on various stones, but have not recognized anything symbolic in either the shapes or locations or relative positions of the holes. At one time we discovered a small stone slab, burned and smoked, near the altar of the celebrated alligator effigy in Ohio, the proximity suggesting that it was once on the altar. This was perforated with a cup cavity, and may have been designed as a symbol. Still other stones, with similar cup-shaped cavities, are found in many places. We saw one on the banks of the Ohio at the steamboat landing at Maysville, Ky., a place which was not suggestive of anything sacred. We also at one time examined the great boulder which was taken from the bank of the Ohio near Ironton, and given by Dr. H. H. Hill to the Natural History Society of Cincinnati, and were told that there were one hundred and sixteen of these perforations on this single boulder. Similar stones have been found in Summit County, O., at Portsmouth and Graveport, O., and at various places in Pennsylvania and Tennessee, and the impression is that they were used for nut-cracking.

The boulder at Cincinnati has certain grooves on its surface,

REESE LIBRARY OF THE UNIVERSITY

four or five inches long, which have the appearance of being worn by continuous rubbing. But about these we enquire, in what respect do they differ from the marks made by arrow sharpening, which are so common throughout the country. Beauchamp has described such works as being common in New York and Gen. Thruston in his new book has spoken of others in Tennessee, and has given a cut representing the same, but they seem very simple things, and we do not see that any symbolism can possibly be made out of them.

Col. Charles Whittlesy thought that the perforations were made by spindles, and that they were evidences of the domestic art of spinning and weaving. Others have taken the ground that some of them were used for paint cups, especially as pestle and mortars have been found in New Mexico with the cup mark in the pestle. The explanation is that the paint, which had been ground, was placed in the cavity while the process of grinding other paint went on. How could symbolic significance come to such simple objects? We suggest the following: It is possible that the women, who so frequently have left the marks of their handiwork, may have used the cavities as signs, giving them the hidden significance which would be expressive of certain sexual desires. We are aware that the bird amulets and other objects of personal decoration were symbols of maternity with the aborigines. The spool ornament was also made symbolic of some more spiritual desire, and the axe, especially when made of jade, was symbolic of the immortality of the soul, superstition requiring that bits of jade should be placed in the mouth of the dead. It is a practice with women in India to take water out of the Ganges and pour over the cavities and the channels surrounding them, as they believe maternity will be the result. Another explanation is that they were sockets where they placed the end of the fire generator, and so came to consider the cavities as sacred to fire and having a peculiar significance. If they are, then we should say that they form only another link in the chain connecting this country with the far east, proving not only that serpent worship, but phallic worship and fire worship and sun worship were all connected and prevailed on this continent in prehistoric times.

II. This point has been impressed upon us by recent discoveries. We now refer to the discovery which we made in connection with the great serpent effigy near Quincy, Illinois. This serpent is a massive effigy, which conforms to the bluff throughout its entire length. Its folds are brought out very forcibly by four conical burial mounds located near the center of the ridge, midway between the head and tail of the serpent. The mounds contained many bodies, none of them remarkable except the one which was cremated at the base of the mound. This was a large body. It was lying on its back, and was partially burned. The bones, however, were preserved, and what was the most singular

about the case, on the very center of the body, near the secret parts, a skeleton of a serpent was found coiled up, as if there was an intention to make it significant. The hands were folded over the body just below this skeleton. The body had its feet to the east, and its face was turned upward, as if to look toward the sun. Thus we have in this cremation scene both the phallic symbolic and the serpent effigy, and we have at the same time some evidence of sun worship. But there was another feature still more remarkable. It was noticed that there were several bodies lying parallel with the central one, and that these bodies had been burned. The fire-bed was about twelve feet across, and contained the remains of at least four bodies, all of them partially burned, all of them cremated and apparently with the faces looking upward. There were also skeletons of snakes found with the bodies, though the position of the snakes was not closely observed. Now the point that we make is, if there was phallic worship at all, it was also attended with the eastern custom of suttee burning. We learn from the early explorers that at the south the fashion was to kill the slaves and wife of a chief when he died and to burn the bodies with the body of the chief. If this was the case among the southern tribes, it may also have been the fashion with this northern tribe. These, we think, are important facts. While everything in this Quincy find was very rude—no relics, no paved altar, no elaborate contrivance further than the effigy itself—still the cremation was remarkable. We acknowledge that there are many things in connection with all the Mound-builders' burials which are of purely native origin. Yet if the phallic symbol is to be seen in one case it is also in many, and, what is more, it is also almost always connected with the serpent symbol.

It is strange that here in America native superstition seized upon the most familiar objects, such as arrow-heads, spear-heads, leaf-shaped implements, pieces of mica, or even pebbles and round stones, and made of these altars which should be symbolic of sun worship; but it is stranger still that native superstition should at times give evidence of contact with the more advanced fashions and customs of countries which have long been historic and that the two systems of symbols should be so near to one another. The find at Virginia City, in Illinois, reminds us of similar deposits in Ohio. It was a simple altar or artificial heap formed out of leaf-shaped relics, the specimens all having come probably from Flint Ridge, but here were used as the resting place of the dead. There was, however, a mica cresent on the breast and copper spools near the head and stone weapons near the hands. Everything about the find showed a very rude state of art, and yet showed a strange and conventional symbolism. The same is true also of the various altar and burial mounds of Ohio. Here in one place were altars composed of similar flint

relics, chipped into leaf-shape, and deposited in two layers, one above the other, the entire heap having been used as a platform on which immense numbers of relics had been placed, but no other relics. In another place, at Mound City, mica plates are laid like scales, one against the other, the whole deposit having made a remarkable crescent, which might be supposed to have glistened with the silvery radiance of the moon. This crescent was situated at the bottom of the largest mound in the group found at Mound City, and was itself placed above a layer of clay, four layers above it composed of sand, the whole being very hard and compact. The mound itself was 17 feet high and 90 feet in diameter, and overtopped all the rest. The symbolism consisted in the crescent, which was 19 down and 19 feet across from horn to horn, the greatest width being about 5 feet.

Still the two altars—the one formed of leaf-shaped implements and the other containing the crescent—were very large, and it is supposed that both deposits were equally sacred among this mysterious people. In the Ohio mounds were other altars, on which many valuable relics had been placed. At the fort on the north fork of Paint Creek, where the leaf-shaped flints were placed, a large number of pipes had been offered, and among the pipes were some in the shape of serpents, the very symbol of the Mahedeo being suggested by one of them. This coiled snake may indeed have been a mere mythologic object, embodying one of the myths which have survived to modern times. Still the presence of the serpent effigy with the other features would indicate that phallic worship had been observed. The clay was at the bottom of these altars, and sand layers above just as clay was beneath the flint deposit in Illinois. So there was a fire-bed of black soil beneath the cremated bodies and white soil above, the evidence of a studied design given in both cases. There are, to be sure, no two altars alike and no conventional or stereotyped mode of burial in the mounds, yet with the variety the uniformity is apparent, the uniformity being always confined to the symbol, but the diversity coming out in the mode of burial and the articles deposited. This is also one of the strange features of the Mound-builders' religion. They seem to have been saturated with superstition. It was almost childish in its simplicity, for it seized upon the most trifling things to express itself; it was also held under the control of a fixed and formal symbolism, which constantly reminds one of foreign customs. Stately ceremonies resembling those of Druidic worship were associated with the trifling details of a savage people. The inference is that human sacrifices were made, and that burials of an extraordinary character were practiced in certain cases, but in other cases the commonest things seem to have been laid away as if with all the care of the most sacred treasure. We are puzzled by these deposits, and yet we recognize a strange

symbolism in them all. The great serpent in Ohio is only such an effigy as perhaps any superstitious savage might possibly devise; nothing conventional or foreign about its shape, but when we come to the oval and the altar in the oval, we are at once reminded of the phallic symbol and the offering to the fire divinity of the east. So, too, the serpent effigy in Illinois seems like a very rude semblance of a massive snake. Its shape conforms to the bluff in every part. It seems only an effigy, but when we compare its double bend to the curve of the Hindu fire generator and to count the number four in the mounds on its summit, and see the contents as they are, it seems as if the same latent symbolism was strangely present, and so it is everywhere. Superstition degenerated or advanced, one of the two. Symbolism, too, was either gradually lost, being merged into the totem system of the hunter races, or it grew up under the same races and became a complicated system, very like the sun symbols of other countries. The resemblance may have been accidental, but the impression is growing that the symbolism was not a native growth, but was introduced from some other land.

III. It is to be remembered that cremation was in Europe distinctive of the bronze age, and was comparatively unknown in the neolithic age. We are also to remember that the phallic symbol was very common during that age, so common that many think it was introduced into the north of Europe by the Phœnicians, who took long voyages for the sake of finding tin. The Druids also are supposed to have cremated bodies, and to them have been ascribed the horse-shoe symbols which are still recognized in those celebrated temples formed from standing stones. With the Druids, fire worship, sun worship, serpent worship and phallic worship formed a complicated system, which stamped itself upon the megalithic monuments of the land. The discovery of these various forms of superstition in the American continent suggests to us the possibility of a transmission of the same complicated cultus to the western coasts of the great sea. This is an important fact. Was it owing to the extension of the Phœnician voyages or to the zeal of Druidic priests that these things were introduced? The contact seemed to have produced a marvellous effect. It was not a decline from the bronze age which we see in these familiar symbols, but the effect of contact with European voyagers in pre-Columbian times, pre-Columbian discovery in fact. The conclusion is startling, but this is the only way that we can account for the marvellous resemblances. Certainly no ordinary nature worship could produce a cultus which would combine all the elements of the eastern faiths—Druidic, Phœnician, Hittite, all in one, nor could the law of growth account for the details as they are seen. Parallel development might indeed result in the prevalence of animal worship among the hunter races, of sun worship among the agricultural races,

possibly of serpent worship; but when all of these are combined and made expressive of a strange esoteric system, with the mystic significance of the sun symbol as the source of life, we are led to say that something else must be brought in to account for the phenomena. Phallic worship is not a simple cult which might be introduced anywhere, nor is it to be expected that the worship of fire, or of the sun, or the serpent, would all come from natural causes. There might be a decline from a previous advanced condition. The bronze age might sink back into the stone age. The absence of tin might result in the substitution of copper for the bronze, and the change go on until savage hunters are seen carrying about with them strange reminders of their previous condition; but we cannot see how the process of growth could bring together on the American tree the varied fruit of the eastern climes or place its many symbols in these western lands. The custom of keeping alive the sacred fire was common among the southern tribes. With them the sun was the great divinity. Idolatry, of a primitive kind, also prevailed among them. They built pyramids of earth, and placed their idols in niches on the sides of those pyramids, with their faces towards the four points of the sky. They kept their dead in sacred charnel houses, and placed images near by to watch the remains or to receive the spirits as they returned, reminding us of Egyptian customs.

The Mound-builder's cult was as strange as this. Here we see the pipes offered to the sun, but the pipes are covered with animal figures, suggestive of animal worship or totemism. Here also we see the serpent effigy, everything about it expressive of a still higher cult, namely, the worship of fire or the sun. Here we see the sun circle and the crescent, showing that sun worship was very prevalent. Here we see the phallic symbol, a marvellous cult, holding its sway over a united people, Southern Ohio being its chief seat of power. Everything of value which was ever offered to the sun was subject to the action of the sacred flame. Here we see the horse-shoe symbol in the mounds and the phallic symbol in the serpent pipes. And with all this complicated symbolism we learn that the bodies were cremated exactly as they were on Druidic altars, though the flames are smoothered beneath the layers of the sacred soil. Surely it is mysterious. Could the Mound-builders have invented all this, and established their system over so great a territory, brought so many strange conceptions into their worship, unless they had received from some source a cult which was not indigenous to the continent. It is said by some that they were nothing more and nothing less than the ancestors of the present race of Indians, but by others that they were gifted with great intelligence; but whichever way we look at them, it does seem that they could not have had such a marvellous symbolism unless there had been among them some one from another continent.

Fig. 1.—Rock in Arizona, with Phallic and Fire and Serpent Symbols.

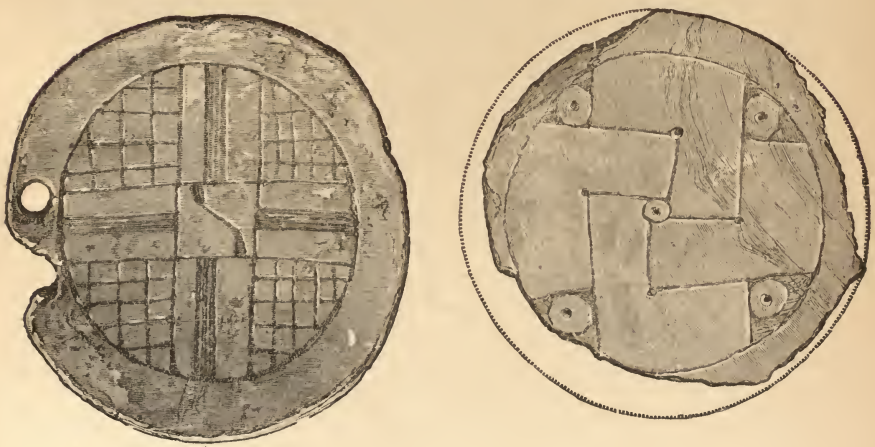


Fig. 2.—Inscribed Shells with Fire Generators or Suastikas from Tennessee.

IV. We now come to the conventionalized figures which are so common in this country, as well as in various parts of Europe and Asia. These figures are seen mainly on the shell gorgets and inscribed tablets, and yet they represent the same symbols which are seen in the earth-works.* The tablets and shell gorgets are more numerous among those works which are supposed to have been built by sun-worshipers—namely, those found in Southern Ohio, in Southern Illinois, in Middle Tennessee and in the Gulf States. In these regions cremation was practiced extensively, altars or fire-beds having been built in connection with the various effigies or in the midst of the circles and other symbolic earth-works. This correspondence between the shapes of the earth-works and the figures on the tablets and gorgets is, to be sure, a general one, and yet it shows that a very complicated symbolism prevailed everywhere, and that this symbolism was embodied in various ways. We do not pretend to say where this symbolism came from, and yet when we consider its complication and the many evidences of design in it, we are convinced that it was not a mere rude imitation nor yet a work of fancy, but wa s the result of a system which was both occult and mysterious.

It is noticeable that the shell gorgets contain all the symbols which ever prevailed at the east—the serpent, the cross, the crescent, the suastika, the tree, the horse-shoe, the loop, the owl's face, the bird's head, the human face, the human form and even the symbolic tree or sacred grove, all being plainly marked and carefully wrought. The impression formed from the study of these conventionalized figures is that they must have been introduced into this country from some other continent, and that one esoteric system of religion prevailed here, its occult mysteries being understood by the priests or medicine men and by them transmitted from generation to generation and carried to the different tribes and races, We now proceed to a description of these tablets, but would first call attention to some new localities where tablets have been discovered. There are on the banks of the Mississippi River three different classes of structures, showing that three different forms of worship or of superstition prevailed, and giving indications also that three different races of people formerly occupied the territory. These classes are as follows: First, the animal effigies which are found in Wisconsin and in the upper part of the great valley. Second, the great serpent whose form is occasionally seen on the bluffs in the central part of Illinois, mingled with the burial mounds, which are so numerous. Third, the pyramid mounds, the largest specimen of which may be seen at Cahokia creek opposite to St. Louis. These three classes of mounds the writer has had the

*For earth-works in shape of serpents, see Native American Symbolism, Chapters III and IV, Figs. 23, 24, 26, 27, 46, 47; in shape of circles and squares, crescents and horse-shoes, Chap. VI, Figs. 1, 2, 4, 5, 6, 7, 8, 9, 19; in shape of cross, Chap. VII, Fig. 10.

Fig. 3.—Cahokia Tablet.—Reverse.

Fig. 4.—Cahokia Tablet.

opportunity of studying, and in connection with the last two has recently made some important discoveries.

It will be noticed that the serpent effigy situated on the bluffs just above Quincy is not altogether a solitary and single specimen, but there are evidences that the serpent worshipers inhabited a wide region and frequently placed the tokens of their presence on the high bluffs which border the river, especially upon the Illinois side. The mounds, which are very numerous and which mark their presence on the landscape, are, to be sure, not often in the shape of serpents, and yet they are frequently arranged in long rows, near to one another, and are practically conformed to every turn or twist of the bluff, so as to give rise to the idea that the serpent was in mind when they were erected. This peculiarity of the burial mounds seems to be intensified as one goes southward, and at one point—near Rockport, in Pike county—becomes so striking that it is not difficult to imagine the serpent effigy to be everywhere present. There is here a series of high rocky bluffs, and on the bluffs many large conical mounds, these mounds being frequently connected with long, low tortuous walls, which form the very spine of the narrow bluffs, making it difficult to determine which part is artificial and which is the natural part of the ridge. The writer found several such groups or series in the space of five miles, some of the groups containing fifteen and twenty conical mounds with narrow connecting ridges—all of them situated on the highest point and made conspicuous objects in the landscape. At one place a series of conical mounds began at one end of the bluff and continued to the other, each conical mound growing less in height and size, and the connecting ridge narrower and more tortuous until it disappeared, the whole series resembling a huge and tortuous snake, whose head was lifted high above the precipice, but whose body stretched along the whole length and whose tail terminated with the end of the bluff.

These semblances are not altogether imaginary, for the writer has passed over them again and again, and has been impressed with the peculiar situation of each, and especially with the conformation of each to the very shape and twist of the bluffs on which they are placed, and has become convinced that this was the superstition which embodied itself in the region. It was an animistic faith which thus peopled every bluff with the spirit of the animal which it resembled, but it was a modified animism which here only recognized the one resemblance—that which is made to represent the guardian divinity of the region, the totem of the people and the great serpent of tradition.

This was undoubtedly the spirit under whose protection their graves were placed and their villages were built; the divinity whose shadow was always present and whose power was always felt.

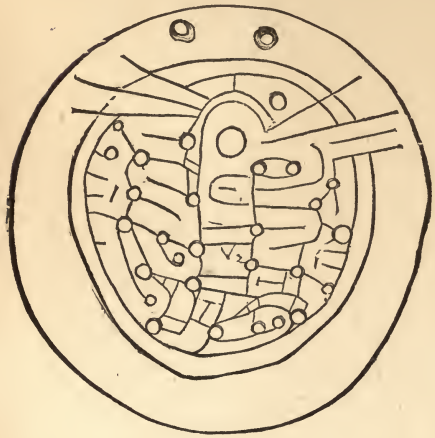
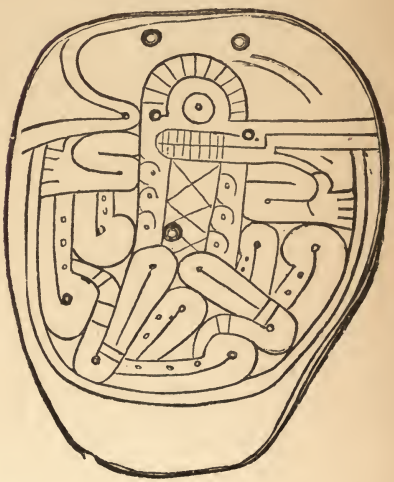



Plate III.—Inscribed Shells from Tennessee.—Serpent and Human Effigies.

The second find was different from the one which we have described, and one which introduces us to a very different class. We now pass out from the domain of serpent worshipers into the midst of the works of the sun worshipers. We are near the great Cahokia mound, which lifts its head so high above the valley, and in the midst of the numerous pyramids and platforms and conical mounds which marked this great settlement of the sun worshipers. It is a very little relic which we see here before us, an insignificant piece of coarse sand stone, a mere fragment and apparently worthless; yet there are certain figures upon it, and it may prove significant. What do we see here? This fragment which was plowed up in a field near this mound deserves our study. See Figs. 3 and 4.

It is now in the possession of Mr. Ramey, the owner of the mound. This tablet is only two inches wide and three inches long, and is a very rude-looking piece of stone, but it has some very remarkable figures on it, figures which may yet prove to be of great service in solving some of the dark problems of American archæology. It is well known that the great Cahokia mound is regarded as the work of a people who resembled in many points the pyramid-builders of Georgia and Alabama and Mississippi. It is also well known that these Georgia mounds have lately yielded from their lowest depths tablets of a remarkable symbolic character—human figures with bird's heads and with large wings extending from their shoulders, being the most noticeable in several of them. The tablet which we have the privilege of describing, also contains two human figures and two figures of birds' heads, but the birds' heads and the faces are separate from one another. The tablet had been broken, and only the half has been found. This half is divided into two parts, the parts on one side containing birds' heads, and on the other side human faces. There is a band running lengthwise of the tablet and a cross band near the broken edge, showing that the other half was also in all probability divided in the same way, and so there may have been four figures of birds and four faces, instead of two, the number four being significant here as in all other symbols of the sun worshipers. The bands which form the half of a cross are full of small circles, sun symbols, the conventional dot in the center of each circle, and cross lines separating the circles. The birds' heads have the conventional shape which is common in the southern tablets, the sharp pinnated feathers above the head, the mouth open as if in conflict, as usual; but on this tablet the bird seems to have a tongue which extends beyond the bill and curves around above the beak, ending in a peculiar scroll or circle which reminds one of the sign of speech in the Aztec pictures and codices. The human faces are on the reverse side of the tablet. They are also separated from one another by a band

with circles or holes, but are looking away from one another instead of toward one another as the birds are. Each face has a lozenge-shaped eye, a beaked or sharp rounded nose, a low, retreating forehead, the forehead being partly hidden by a sort of turreted crown or head-dress, from which the usual pendants or tassels seem to fall. The features of these images are peculiar, resembling those which are sometimes seen among the Aztecs. The mouth of each is wide open, and from the mouth a very singular symbol seems to project. This symbol could not very easily be made out on account of the worn condition of the tablet, but it resembled a horse-shoe, and was at once suggestive of the phallic symbol. We do not state this positively, but if this is the case, we regard the tablet as one of the most remarkable which has been found in this country. It is well known that the horse-shoe was originally a symbol of the generative organ; but in India it came to assume an entirely conventional shape and finally gained an esoteric significance which was very remote from the original sexual idea. It became, in fact a symbol for the "principle of life," and might be supposed to stand for the "breath," and so for the "soul," which is supposed to have dwelt in the breath. It is known that in Mexico at times pieces of jade are found in the mouths of the dead, it being a superstition that the jade might receive the soul, and so perpetuate the spirit of the individual. We do not say that this or any such superstition was embodied in this symbolic tablet, and yet we throw out the suggestion and ask others to examine the tablet with this thought in mind.

It should be said here that the land in the immediate vicinity of the Cahokia mound is full of bones, and a vast multitude seems to have been buried here first and last. There is no doubt that the builders of this mound were sun worshipers, and that they had the usual symbolism of sun worship, though where that symbolism came from no one at present can tell. Still, if the tablet should prove to be as significant as it seems to be, we should conclude that that symbolism must have come from some other continent, and that we have in it another evidence of contact with the people which once filled the far east with this strange cult and who carried it to the extreme portions of Europe and possibly brought it to America also.

In favor of this supposition, we here mention the fact that nearly all the shell gorgets and inscribed tablets which are now becoming quite numerous, have an amount of conventionalism which in itself must convince us that the symbols in them had become thoroughly systematized and carefully regulated and controlled. We have no doubt that each one of the figures on these gorgets and tablets—whether a figure of a serpent or of a bird or of a human face or figure—had a significance which was thoroughly understood by the chiefs and priests and ruling

classes, and that they became almost equal to a series of hieroglyphics to the people. It will be noticed that there are loops and bands and circles and dots and crosses and crescents in all of the tablets, and that as a general thing the order of their arrangement, the number of the divisions, and even the very combinations of the different symbols, can be recognized as having a significance, each tablet becoming even to the uninitiated white man a sort of coat-of-arms or symbolic shield, the native heraldry having embodied itself in this way. We may say, however, that the contrast between the symbolism contained in this conventionalized heraldry is much more elaborate and complicated than that found in the larger and ruder effigies, and that it requires a much nicer discrimination to select its different parts and to understand the significance of each. The same custom of erecting pyramids which had reached such perfection in Mexico had here exercised itself in erecting this immense earth-work. The same elaborate system of sun-worship had here embodied itself and the same conventional symbolism which appeared in the codices also impressed itself on the tablets and other symbolic ornaments. See Plate III.

We would here call attention to a few additional facts. Our supposition has been that the Mound-builders combined the phallic worship with fire worship, but that the symbols of the two cults had become conventional and the ideas remote from those ordinarily associated with either physical or material objects. Confirmatory of this supposition we would now refer to the specific figures which are to be seen on the inscribed shells and tablets taken from the mounds and to the various markings and lines which are seen on the inscribed rocks, whether in the Mississippi Valley or elsewhere. It will be noticed that there are many shell gorgets on which the serpent is inscribed, and that these serpent figures always have loops running from the body and neck to the head, including the dotted circle, as a representation of the eye. This loop is a conventional figure, which reminds one of phallic worship. Again, the serpent is often divided into four parts; between each part there is a dotted circle, the number four reminding us of the four points of the compass and the four parts of the heavens, the circles reminding us of the four suns. Among the shell gorgets there are many which have the suastika or fire generator plainly marked, showing that the figures which have become so conventional and the ideas which are so hidden must have come from an eastern country. The same thought is also suggested by the presence of the cross in America, a symbol which was evidently as common in prehistoric times as in historic, but one which then had an entirely different significance. It will be noticed further that these symbols—the loop and the dotted circle—are to be plainly seen in the human figures, which are becoming quite common,

ENGRAVED COPPER TABLET FROM THE ETOWAH MOUND.

REESE LIBRARY
OF THE
UNIVERSITY
OF
CALIFORNIA.

and, what is more, that the figure of the tree is also apparent in these figures, showing still more conclusively that there was a mingling of eastern symbols with the native aboriginal emblems in these human tree figures.

CHAPTER XVI.

RELICS FROM THE ALTAR MOUNDS AND ASH PITS.

The subject which we have chosen for this chapter is one of great importance, and one which has an especial bearing on the Mound-builders' problem. This will be seen as we proceed to unfold the facts which have come to light, but it may be well to consider beforehand some of the points which are involved in the study of it.

It will be noticed that the history of mound exploration began with the discovery of the altar mounds and the remarkable relics which they contained. The exploration of the ash pits is, on the contrary, very recent, and marks one of the latest events in archæological discovery. It was in the early days of archæology that the authors of the "Ancient Monuments", Messrs. Squier and Davis, began their exploration in Southern Ohio; but it was in connection with the altar mounds that the most remarkable discovery was made. This discovery was in the neighborhood of Chillicothe, the very place where these gentlemen resided. Here, in the midst of that very wonderful series of earth-works which then surrounded that city, and which were at that time in a very fine state of preservation, these gentlemen came upon that small enclosure to which they gave the name of "Mound City". The enclosure was by no means a "city", for it was but a little circle and contained scarcely more than thirteen acres of land, but it was a spot which proved very rich indeed in archæological treasures. The treasure house of Mycenæ may well have surprised the great explorer, Dr. Schliemann, but this with the discovery of the palace of Priam in Troy, may be said to have led to nearly all the explorations on the classic soil which have been carried on since that time, and to be in reality the starting point of classic archæology as it now exists. So we may say that the little enclosure which contained twenty-four burial mounds, which was situated in the valley of the Ohio river, was the starting point of archæological discovery in this country and the beginning of prehistoric science in America.

The idea that there were chronological horizons in America as well as in Troy or in Egypt may not have occurred to many, but this is the very point brought out by the study of the altar mounds and the ash pits. These are eminently tokens which prove that there was a succession of races or tribes among the

Mound-builders, and that each tribe or race left its record plainly written beneath the soil. While there are no buried cities here, and much less a succession of cities such as have been found in the great mound at Hissarlik; while there are no statues of kings which belonged to different dynasties, such as have been exhumed at Pithom in Egypt; yet in their rude way the Mound-builders did leave vestiges of themselves indicating diverse populations and distinct grades, so that we may easily separate one from the other. It appears now that there were dynasties or races in the mound-building era, which are as distinct as those recognized among the pyramid-builders of the East. The dynasties may not have as distinct a history and the monuments may not be as full of hieroglyphic records, yet the relics and the mounds do reveal a history of the past which is plain and true. The invasion of the shepherd kings into Egypt changed the records of that land. So the invasion of different tribes here changed the aspect of affairs, and we may recognize in the mounds the different grades of society, different modes of life, and even different race qualities, thus carrying out the analogy in many particulars.

The distinction between the Mound-builders and Indians finds illustration here. The study of the altars and the ash pits seems to confirm this distinction rather than to confute it. It will be noticed that the relics taken from the altars are not only different from those taken from the ash pits, but they show a very different condition of society, a different stage of culture, a different system of religion, and even give the idea that the occupations or employments of the people were also very different. This is an important point. We do not undertake to say who the Mound-builders were, nor do we hold for a certainty that they belonged to a different race or stock from the modern Indians; yet so far as their tools are concerned, we should say that the evidence is all in favor of a diversity of origin, the later people being allied with the Mongolians of the northeastern Asiatic coast, but the earlier people with the ancient races of the European continent.

Was there a division into epochs? The ash pits we may regard as belonging to the most recent people. They are so different from the altars that any one who has learned about them must have come to the conclusion that at least two classes of people must have occupied this same region, one preceding the other, but the more advanced being perhaps the earlier. We do not know who the people were who dug these pits and deposited their relics in them, but enough is known to prove that they must have been not only different from those who had erected the altar mounds, but they must have been a more recent occupants of the soil, and the probabilities are that they were a wilder or ruder people. This impresses upon us the fact that there

were probably several epochs in the mound-building period. The first epoch was that marked by the presence of the serpent-worshipers—the people who erected the great serpent effigy in Adams county, and perhaps the effigy mounds at Granville and Portsmouth—a people who afterwards migrated and became the effigy builders of Wisconsin. The second episode in the Mound-builders' history we may consider as the one which was marked by the altar mounds. It was the age in which sun-worship reached its height. At that time the sacred enclosures were erected; at that time the relics of the Mound-builders were offered in great numbers to the sun divinity. At that time the finest works of art which have been discovered were created, and at that time the most elaborate and extensive earth-works were erected, and the highest stage of civilization known among all the mound-building races was reached. The third episode in the mound-building period was that which is marked by the stratified mounds and by the chambered tombs. It is supposed that an unknown people—who possibly may have been the ancestors of the Cherokees—intervened between the sun-worshipers and the people of the ash pits and chambered mounds, and who left the tokens of their presence on the soil of Ohio. The ash pits mark the last episode of the mound-building period. We do not fix the date exactly, and yet there are some evidences which show that it was very near the historic age. It may possibly have been even subsequent to the discovery by Columbus that these remarkable relics were deposited.

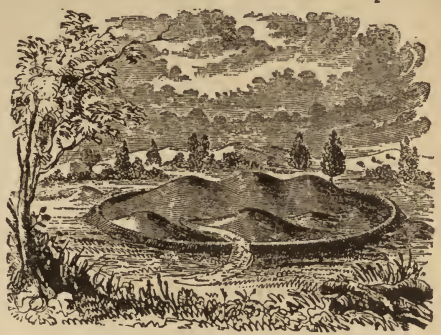


Fig. 1.—Altar Mound at Clarke's Fort.

As to the ages represented a few words will be appropriate. The relics seem to belong to the stone age, and perhaps indicate to us the cult of that age; and yet those from the altar mounds are nearer the "bronze age" than to the stone. Perhaps we might class them with a "copper age," and from them learn the characteristics and the cult of that "age".

We have said that altar mounds were closely associated with sacred enclosures, and that both were probably the work of the class of sun-worshiping Mound-builders, but we find among the relics deposited on these altars many things which remind us of the cult of the serpent-worshipers, the two systems apparently having been mingled in the altar offerings. The ash pits, on the contrary, seem to have been associated altogether with the cult of a people who deposited their relics in graves rather

than in mounds, the large majority of them being in the midst of the cemeteries, in which many bodies were deposited, so that we are inclined to say that these were not the work of Mound-builders at all, but were left here by a later people who resembled the modern Indians. Still the relics discovered in the ash pits nevertheless remind us of the "age" of the Mound-builders, and the question arises whether there was not a practice of borrowing the art of relic making from one another among the prehistoric races, and whether this does not in itself suggest to us many things concerning the relation of the two classes of people in prehistoric times. We look to the relics for the records of the past. It may be that we shall find in these very relics taken from the altars and the ash pits the different leaves of the book which contains the history for which we are seeking.

The next point has reference to the religious symbolism which prevailed. We have spoken of this elsewhere, but the position taken is confirmed. Our opinion is that these altars mark the places where the sun worshipers offered their sacrifices to their great divinity—and that in them we find the symbolism of this cult. Our reasons for this belief are the following:

Fig. 2.—Copper Rings from an Altar Mound.

(1) It will be noticed that the altars were all contained in enclosures, which, owing to the uses to which they were applied, may well be called sacred enclosures. It is well known that the ancient inhabitants of Briton were accustomed to erect their stone altars within circular earth walls like these, and that on these altars they offered their sacrifices to the sun, sometimes immolating even human victims. This is true of the inhabitants of Mexico and of the Pacific Islands, who were also sun-worshipers. (2) The altars were evidently symbolic in their shapes. They were to be sure little more than shallow saucer-like fire beds, which were placed on the surface of the ground and filled with relics of various kinds which were offered to the sun. Many of them, however, were circular in shape; some of them contained a double circle, some the square and circle; occasionally altars contained crescents made from silvery mica, the shape of the crescents and the shining material of which they were composed giving the idea that they were the symbols of the great moon divinity, which in common with the sun was worshiped by these strange people. (3) The use of fire in the sacrifices. It appears that all the altars give traces of a "great burning." In some of them human bodies seem to have been cremated; in others stone

relics were deposited and reduced to fragments by the action of fire. The altars seem to have been kept open until fixed times, when the solemn rites were observed, The fires were lighted in the midst of the enclosure, the offerings were partially consumed while the people looked on, but afterwards smothered by throwing earth upon them, which became hardened into a crust over the altars, and upon this was erected the mound, which continued to be a silent monument to the sun. We now proceed to consider the contrasts between altars and ash pits, and their relics.

I. We first turn to the description of the altar mounds. These as we have said, were the earliest to be discovered, the majority of them having been explored by Messrs. Squier and Davis. Altar mounds, however, have been discovered in many places, and they now constitute an interesting class of archæological tokens. It was thought they were found only in the State of Ohio, but it is now known that similar mounds exist near Daven-

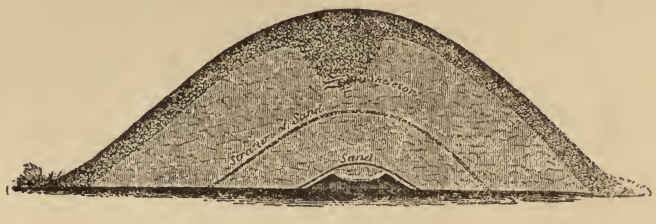


Fig. 3.—Altar Mound with Indian Burial Intruded.

port, Iowa, in various parts of Illinois, and a few among the effigy mounds of Wisconsin. This brings before us the question of the migration of the Mound-builders—a question which we shall defer for another chapter. At present we shall speak of the altar mounds of Southern Ohio.

Let us consider the locations of the altar mounds. It may be said that the largest number and the most interesting specimens are those which were discovered near Chillicothe, Ohio. This is the first location. The second is not very distant from this. It is the group which was discovered on the north fork of Paint Creek, in the midst of the enclosure called Clarke's Fort. See Fig. 1. The third location is that found on the banks of the Little Miami river, not far from the Ohio river, some twenty miles east of Cincinnati.

There are altar mounds in other parts of the country, but they are seldom contained in enclosures, but are oftener the cremation places where bodies have been burned, the relics found upon them having been buried with the bodies. We may say that the serpent-worshipers erected altars, but they generally used them as cremation places. The sun-worshipers, however, used them not so much as cremation places as places for the deposit of costly offerings, though remains of bodies are sometimes found

(1.) We begin with the altar mounds at Mound City. This is an enclosure three miles from Chillicothe. It contained thirteen acres. Here within the walls were twenty conical mounds, all of which were explored, and the majority of them proved to contain altars. This puts it beyond question that they were places of sacrifice. One of these mounds was 17 feet high, 100 feet in diameter. It was a stratified mound, four strata in all; at a depth of 19 feet was a level floor of clay, slightly burned, and around this floor was a layer of silvery mica, formed of sheets which overlapped each other like the scales of a fish. This layer was in the form of a crescent, the outer edge of which rested on a ridge of sand six inches in height. The length of the crescent from horn to horn was 20 feet, its greatest width 5 feet. The mica sheets were about 10 inches or a foot in diameter, composed of what is called graphic mica. It is supposed that these crescents marked the unknown rites or ceremonies, and which may have been connected with the worship of the moon, as it is not supposed to have been a mound of sacrifice.

Fig. 4.—Double Altar.

Another mound of this group was 7 feet high by 55 feet base. This mound was stratified with eight layers of gravel, sand and earth. At the bottom was an altar of burned clay, 5 feet by 9. It was filled with fine dry ashes and fragments of pottery, copper disks, and above the ashes was a layer of silvery mica, in sheets, overlapping each other. Above the mica was a quantity of human bones. Another mound, 90 feet in diameter and 7½ feet in height, contained five layers and an altar. The altar was 10 feet in length and 8 in width at the base, 6 feet by 4 at the top; the dip of the basin was 9 inches; it was filled with ashes.*

This mound (Fig. 3) was composed of five strata, as follows: 1, gravel, one foot; 2, earth, three feet thick; 3, sand; 4, earth, two feet thick; 5, a stratum of sand; 6, the altar. The altar was a parallelogram, 10 feet by 8, 18 inches high. It contained a few shell and pearl beads and fragments of pottery. The intruded burial contained two skeletons, various implements of horn and bone, several hand axes and gorgets of stone, the shoulder-blade of the buffalo, shaped like a Turkish scimeter, an instrument made of an elk's-horn, used as a war-club, all exceedingly rude, and resembling articles used by Indians.

Another mound, 90x60 in diameter, 6 feet in height, had two

*See Fig. 3, also Ancient Monuments.

sand strata. It contained a large quantity of galena, 30 pounds in all. The galena was in small pieces; around this deposit was a layer of charcoal. The altar bore marks of intense heat. Still another mound, 140 feet in length, 50 or 60 in width and 11 high, with two sand strata, contained an altar 60 feet in length, which formed a basin not far from 18 inches in depth. Within this basin was another altar (see Fig. 4), 8 feet square. This altar seems to have been burned to the depth of 22 inches, showing that one altar had been built upon another, and fire had been applied at different times. It is supposed that three successive burnings had occurred before the altar had been covered. There was a thin layer of fine carbonaceous matter in the altar, a number of pieces of timber; other things would justify the inference that they had supported some funeral or sacrificial pile. A quantity of pottery, many implements of copper and stone were deposited on the altar. They had been subjected to a strong heat. Among the implements were arrow points of quartz in fragments, some fifty or one hundred of them in number, two copper gravures or chisels, twenty or more tubes of copper, many fragments of pottery, a couple of carved pipes, one of them a bird resembling the toucan. There were fragments of obsidian and crystals of garnet also on this altar.

Fig. 5.—Paved Altar.

Another mound contained an altar 8 feet 2 inches in length, and about 4 feet in width, the depression 6 inches. In the altar were about two hundred pipes, carved in stone, many pearl and shell beads, disks of copper, ornaments of copper, covered with silver. The pipes were much broken up. The heat had been sufficiently strong to melt the copper. The bowls of the pipes were carved in the shapes of animals, birds, reptiles, etc., all of them executed with strict fidelity to nature. The otter is shown in the characteristic attitude, holding a fish in his mouth; the heron also hold a fish; the hawk grasps a small bird in its talons, which it tears with its beak; the panther, the bear, the wolf, the beaver, the squirrel, the raccoon, the hawk, heron, crow, swallow, buzzard, paraquet, toucan, turtle, frog, toad, and rattlesnake are recognized at the first glance. The most interesting and valuable in the list are a number of sculptured human heads, representing the physical features of the ancient people by whom they were made. Copper disks, tubes, pearl, shell and silver beads were also found in this mound. The silver was reduced to extreme thinness, not exceeding in thickness ordinary foolscap paper; it was plated, or, rather, wrapped around copper beads. There were a number of large beads of shell enveloped

with sheets of copper, with thin sheets of silver over the copper. Besides there were several star-shaped ornaments composed of shell, covered by an envelope of sheet copper, over which silver slips were carefully folded. A small hole passed through the center of these ornaments, by which they were fastened, probably to the clothing of the wearer. There was but a small amount of silver; the whole amount would not exceed an ounce in weight.

Another of these mounds contained three sand strata and an altar of unusual form. At a depth of 4½ feet the deposit was reached, which consisted of a pavement of water-worn stone, taken from the river. See Fig. 5. The pavement was 6 feet long and 4 broad. On the pavement was a skeleton. A fire had been built over it. There were no relics with the skeleton, though around the head were disposed a number of large fragments of cyanite, a material from which the instruments of the modern Indians were frequently made. After the burial rites had been performed, the altar had been filled and another fire had been

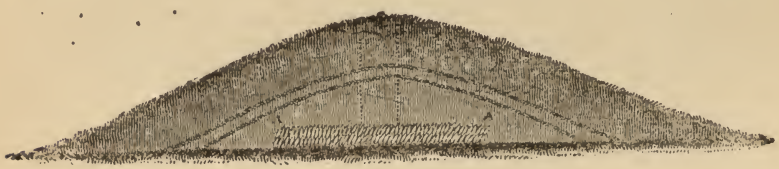


Fig. 6.—Altar Made of Flint Disks.

kindled, leaving the earth of a reddish color. The whole had then been covered up by the mound. There was an intruded burial in the top of this mound. Another mound, 80 feet in diameter, 6 feet high, contained an altar composed of two layers of disks, chipped out of horn stone, some nearly round, some in the form of spear heads, measuring 6 inches by 4. Six hundred disks were thrown out. These disks were deposited here perhaps as an offering; they must have been fashioned with toil and brought from a distance. They were carefully laid in two tiers, one layer upon another, a little inclining or overlapping one another. See Fig. 6. This leads to the conclusion that human sacrifices were practiced by the Mound-builders of this region.

Another mound which belongs to this group near Chillicothe is the one represented in the cut Fig. 7. This mound was situated in the center of a large enclosure, but was solitary. It contained two altars, both of them cased or paved with pebbles. The paving was made from pebbles about the size of a hen's egg. These were laid with the utmost precision, rivalling the pavers' finest work. Upon the altar was found burned matter

and human bones, and encircling the bones were ten wrought copper rings, probably the bracelets of the arms which had been burned. See Fig. 2.

(2.) We now turn to the second locality. This was at Clarke's Fort, situated some twenty miles north from Chillicothe. The fort itself contained a hundred and eleven acres. Within the fort was the small enclosure in which were the altar mounds, showing that it was the sacred place for the clan which (see Fig. 18) dwelt here. This so-called sacred enclosure was semi-circular in shape, 2000 feet in circumference, and in it were seven mounds, three of which were joined together, forming a continuous elevation 30 high by 500 feet long, the other four being isolated mounds (see Fig. 1). Here the ground was elevated above the surface and overlooked the area of the larger fort in which they were enclosed. The mounds were all places of sacrifice. One mound here contained two altars, or rather an altar and near it a bed of charcoal. On the altar, which meas-

Fig. 7.—Double Altar.

ured not more than 2 feet across, were some remarkable relics: Several instruments of obsidian, broken, but evidently designed for knives; several scrolls from mica, perforated, designed as ornaments to a robe; traces of cloth with thread, doubled and twisted, made from some vegetable fibre; several bone needles; a quantity of pearl beads; some fragments of copper. Another mound in the same enclosure contained an altar of large flat stones, faced on the top and sides with slabs which were closely fitted together. The altar bore marks of fire. The deposits on it had been removed by modern Indians, who had opened the mound and buried one of their dead on the slope of it. Another mound contained an altar with a level area 10 or 15 feet broad, which was covered over with earth, a foot deep, followed by a stratum of small stones. Hundreds of relics were taken from this mound. Several coiled serpents, carefully enveloped in sheet mica and copper; carved fragments of ivory; a large number of fossil teeth.

(3.) Another locality where relics have been found upon altars is the one which has been described by Prof. Putnam under the name of the Turner Group, in Anderson township on the Little Miami river. The group embraces thirteen mounds and two earth circles, is enclosed by two circular embankments. Several of the mounds contain altars. One altar contained two bushels

of ornaments, stone, copper, mica, shells, and thousands of pearls, nearly all of them perforated. The copper ornaments were covered with native silver, pounded into thin sheets. One copper pendant was covered with a thin sheet of gold, the first specimen of native gold that has been found in a mound. Here were thirty of the singular spool-shaped ear-rings, ornaments of copper resembling the heads of animals, a few grotesque human profiles; scrolls, scalloped circles, oval pendants, several finely chipped points of obsidian, three large sheets of mica. The most important of all were several masses of meteoric iron, and an ear ornament of copper covered with a thin plating of the iron. Three of the masses of iron had been more or less hammered. They proved to contain nickle, and were unquestionably meteoric. Another altar contained several terra cotta figures, all of them more or less burned. Many of them appear to have been purposely broken. These show the peculiar method of wearing the hair, singular head dress, and button-like ear ornaments; two remarkable dishes carved from stone, in the form of animals; a serpent cut out of mica; several hundred small pebbles; 300 astragali of deer; a finely made bracelet of copper; several ornaments of copper. Another mound contained a tumulus surrounded by a stone wall, in which were several skeletons. With each of three of the skeletons were found a pair of spool-shaped ear ornaments, two large sea shells and a copper celt. This mound seemed to be full of a series of pits, with tubes and flues, showing the action of fire. The Marriott mound, adjoining the Turner group, contained a large quantity of relics. The mound was 2 feet high and 60 feet in diameter, with a basin of burnt clay in the center. Within the mound were many bone implements, such as needles and awls, chisels, objects of stone, 400 flake knives, also 10 handles of knives made of antler, in a pile, under the bones; with the group of handles, chipped points and flakes, a copper plate cut from a sheet of rolled copper, 9 inches across and in length, 5⅛ in width; with the plates 6 canine teeth of bears, with pearls inlaid; 6 spool-shaped ear ornaments, four near the head and two in the hands, also a large quantity of pearl beads, 250 or 300 in number. The ear ornaments have vegetable fibre wound around the central column. These may have been placed with the dead as tributes. The number of these ornaments found on the altars of the great mound, some covered with native iron, others with native silver, shows that they were regarded as valued offerings in keeping with the thousands of pearls and other ornaments thrown upon the altar fires during the ceremonies which there took place.

These altars in Anderson township, as well as those on the north fork of Paint Creek and in the Scioto valley, were all in enclosures, surrounded by a circular wall, but the most of the relics seem to have been placed on the altars and offered, fire

having been applied, and the costly relics burned and destroyed by the heat. What was the object of making the altars? Was it to appease the divinity and to ward off some great calamity, or was it to present these costly gifts to the spirits of the deceased, that they might have pipes and ornaments in the land of the shades, the shadowy shapes of the pipes going up in the flames to be taken by the spirits which were hovering near? The answer to these questions cannot be positively given. There seems to have been mingled sun-worship and fire-worship in all of these localities, and there are some evidences to prove that human bodies were cremated, and that the offerings of costly relics were to the spirits of the dead. Many of the relics were associated with human bones, giving the idea that in some cases at least bodies were burned at the same time that the relics were deposited. There is a distinction between the altars on which offerings were made, and the basins or fire beds on which bodies were burned. The last case which was described, the one in Anderson township, was a fire bed. The altar was in the midst of the bodies that were buried. It will be noticed that there were no offerings as such in this burial place, unless we consider the pottery and flint flakes and the bundles of knife handles, as offerings. Otherwise it was a burial place in which cremation had been practiced.*

II. We now turn to the study of the relics. It will be noticed that the relics taken from the altar mounds are of the same general character. They abound with fine sculpturing and are many of them imitative of animated nature. There may be a slight difference between the specimens taken from the Turner group and those from the Chillicothe mounds. We learn from them that the people who erected the altars were well advanced in art. We may say, in fact, they were more advanced than any other known race of Mound-builders. No specimens have been discovered which can compare with these. Great contrasts may be seen between these relics and those taken from the ash pits, and we might also say include the relics taken from the stratified mounds. We call attention to these contrasts as we proceed.

(1.) Let us first consider the relics found in the altar mounds. These were of all kinds of material—copper, lead, mica, gold, silver, meteoric iron, pearl beads, shell ornaments, carved stone, highly wrought pottery, and even woven cloth. We may say that all these seem to have been the work of one people, for they all have the same general characteristics. There are, to be sure, certain variations in the different collections, those from the first locality having more human-shaped carvings, those from the second abounding more with the figures of serpents, and those from the third exhibiting more of the spool-shaped ornaments

*See 18th Annual Report, Peabody Museum, pages 450-466.

and more metal covered specimens. Still, so far as the art, was concerned, we place them all in the same grade. It is unnecessary to say that they are immeasurably beyond anything which the North American Indians are known to produce. They combine taste in arrangement with skill in workmanship, and are faithful copies of nature. They display animals in characteristic attitudes and show great familiarity with their habits. The human effigies are valuable as ethnological specimens, giving the features characteristic of the tribes then extant. The ornaments are also suggestive as to the dress worn in prehistoric times.

We now proceed with the specific cases, and take up the specimens from the enclosure called Mound City. A description of the relics was given by Squier and Davis at considerable length.

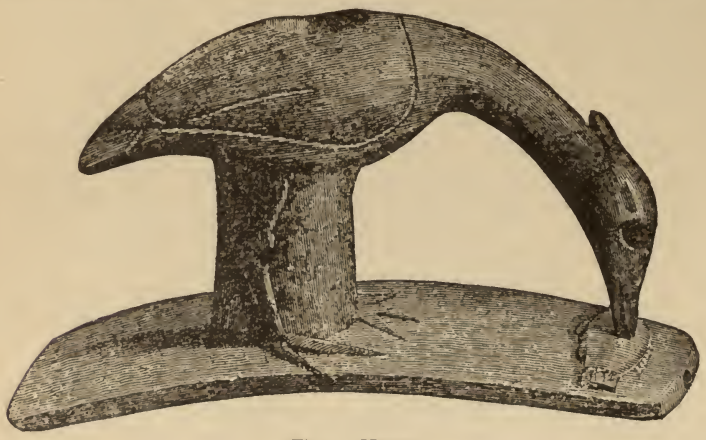


Fig. 8.—Heron.

From this we learn that the carved pipes were especially beautiful and true to life. Among the most spirited and delicately executed specimens are those representing the birds. They are more numerous than those of animals; they comprise between thirty and forty different kinds, and not far from a hundred specimens. There are several varieties of the same species. Among the owls we find the great owl, horned owl, and little owl; several varieties of the rapacious birds, the heron (see Fig. 8) and hawk being notable specimens, the small body, long wings, long, thin neck, sharp bill, tufted head are striking features. The articulations of the legs and the minutest features are shown. These are carved from red speckled porphyry. As a work of art it is incomparably superior to the remains of any existihg tribes of Indians. The hawk is in the attitude of tearing a small bird to pieces. The sculpture is spirited and life-like, minute and delicate. The finer feathers are well represented. The eyes of this bird are composed of small pearls, inserted about half their depth in the stone. The swallow has an attitude which is char-

acteristic; the body is thrown forward, wings about to be extended, as if the bird was just ready to dash off on its swift flight. Another bird is wrought with admirable skill.

The cherry bird is represented by three specimens; nothing can exceed the life-like expression of these. Several bird-pipes seem to be unfinished. They lack the markings for the feathers and for the bills. The base and various parts of the figure exhibit fine striæ, resulting from rubbing or grinding. The general outline was secured by cutting with sharp instruments, the marks of which are plainly to be seen. "The specimens indicate that the work was done rapidly by an experienced hand; the freedom of the strokes could only result from long practice. The lines indicating the feathers, grooves of the beak and other more delicate features, are cut or graved at a single stroke; some pointed tool seems to have been used, as the marks are visible where it occasionally slipped. We may infer that the manufacture of pipes was a distinct trade among the Mound-builders."

Fig. 9.—Spotted Toad.

Sculptures of the toad are very truthful. See Fig. 9. The knotted, corrugated skin, folds and lines are clearly cut with some sort of a graver. The marks of the implement clipping out portions a fourth of an inch in length are distinct. The general surface appears to be covered with striæ, the result of rubbing. Some of the toads are also unfinished.

Two heads representing eagles are also very superior in point of finish, spirit and truthfulness. The peculiar defiant expression of the king of birds is admirably preserved. Expression in sculpture was evidently aimed at by the artist, and very successfully represented. The lugubrious expression of the mouths of the toads is said to be very amusing. The savage expression of the beasts of prey is also quite marked. The wild cat, cougar and otter are represented. These are exquisitely carved from a red granulated porphyry; strong jaws, short neck, whiskers, the shape of the hair around the head are minutely sculptured. The ears are also very natural. A very spirited representation of the

head of the elk is given; another of the wolf, several of the serpent; the beaver, the squirrel, the toucan and the Manitou are also represented. The human face is very finely represented. Four specimens were taken from one mound, mound No. 8 in Mound City. Each one of these specimens was different. It would seem as if the effort was to represent different tribal features in these faces. The hair, head dress, tatooing and painting are represented. The ears were perforated, and it is probable that they were ornamented with rings of copper. Fidelity to nature in the sculptures of human heads is such that they display not only the characteristic features of the ancient races, but their method of wearing the hair, style of the head dress, mode of adjusting their ornaments. A fillet of real pearls was displayed upon the head of one of these pipes, the drapery of the head dress having had a border of these precious stones. The use of pearls and precious stones for the eyes of the birds and for the head dresses of the human faces is noticeable, as it shows some skill in the lapidary's art.

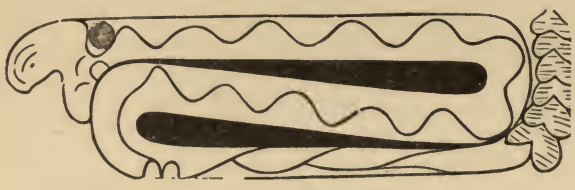


Fig. 10.—Tufted Serpent.

(2.) The relics from Clarke's Fort are next to be described. The coiled serpent is the most remarkable, as it seems to be the embodiment of a myth, and suggests a familiar symbol, which is common at the East. The suggestion that the various relics found upon the altar were the personal effects of deceased chiefs is controverted by the fact that the deposits are generally homogenous. Upon one altar pipes only; upon another a simple mass of galena; another has a quantity of pottery; another a collection of spear heads; another a layer of mica. Mica is common in the deposits of the mounds of Ohio. Beside the deposit in the shape of a crescent at Mound City and the scrolls of mica in the mound on the North Fork, the Grave Creek mound contained a hundred and fifty bits of mica, perforated as if they were ornaments on the article of dress. A large piece of mica, three feet across, was found in a mound near Circleville. Perforated tablets were also frequently found in the altar mounds. Whether these tablets were worn as badges or ornaments, or whether they were carried as implements for shaping the bow string, is uncertain. They are very common in the mounds of Ohio. Bracelets of copper, smoothly hammered and highly polished, are also common. The serpents from this enclos-

ure are most remarkable, as they were very skilllfuly wrought. Some of them seem to have been symbolic in shape. "It does not appear that these relics were designed for ornaments; on the contrary, the circumstances under which they were discovered render it likely that they had a superstitious origin." One tablet was found closely enveloped in sheets of copper. See Fig. 10. It was painted in different colors, but several of these were originally deposited in the mound.

III. We now turn to the ash pits. We have said that these belonged to a different horizon from the altar mounds and were probably the tokens of a different race. These points are to be considered as we proceed, and in order to bring them out the more clearly we shall speak first of the location of the ash pits; next consider the difference between these and the altars; third, of the character of the deposits contained in the pits; fourth, of the grade of art which was represented by the relics contained in them, and fifth, of the probable age of and race to which they should be ascribed.

(1.) Let us ask about the location. On this we have the testimony of several gentlemen who have visited the spot, including the writer among the number. The cemetery in which these ash pits were discovered is distant about one and a half miles southeast from Madisonville, and occupies the western extremity of an elevated plateau which overlooks the Little Miami river, and is about one hundred feet above the water line. Here is a well-wooded bluff which faces the river for about half a mile, but which is cut off from the background by a small stream called Whisky run. The locality has been a pottery field, as much pottery has been found here. There are no mounds in the cemetery, but there are a number on the edge of the bluff adjoining, and among them one or two earth circles with the ditch inside of the circle. It is also said there were about forty such earth-works in the region, being scattered about the townships of Columbia, Anderson and Spencer. Whether these are with the cemetery is a serious question. It will be remembered that in other localities mounds and earth-works are associated; but this is the only one in which a cemetery seems to figure as among the tokens. This would seem to indicate that the cemetery was in reality an exception and that it belonged to another period. It is said, to be sure, that the forest trees growing in the cemetery were many of them very large, measuring from ten to fifteen feet in circumference, and that this would prove the cemetery to have been of the pre-Columbian age. We grant it; but the same time maintain that it was comparatively modern.

(2.) A comparison between the altars and ash pits. It appears the burials were exceedingly rude, the bodies having been merely deposited in the ground without any covering—not even a stone coffin or a covering of bark, and much less a fire bed or altar

such as we have described. The only thing which at all resembled an altar was the pits into which the ashes and bones and debris seem to have been poured; but there were no traces of religious offerings or any such thing. It is worthy of note, however, that the bodies were almost without exception accompanied by fine vases, and sometimes by pipes and other choice relics. The bodies were for the most part placed in an horizontal shape, but they were also arranged in tiers one above the other, as if the cemetery had been long in use. The ash pits are supposed to have been dug before the bodies were deposited, and yet the pits and the graves may have been cotemporaneous, the one being the depository of the sacred possessions and the other of the bodies of the deceased.

(3.) As to the character of the ash pits: Perhaps this will be understood from a review of the explorations. This was begun under the Literary and Scientific Society of Madisonville, and the report was prepared by Chas. P. Low, though the explorations were conducted by Dr. C. L. Metz, who afterwards transferred the results of his labors to the Peabody Museum. When the exploration was begun the earth-works and mounds were the chief objects of interest, but during the progress of the work one of the laborers who was digging holes in the forest, came upon an ancient cemetery from which six hundred skeletons, accompanied by evidences of handiwork in the shape of flint, stone implements, pottery ware, charred matting and corn, tools and ornaments of bone, shell and copper, all indicating an industrious people who lived in large communities, and obtained their support by cultivating the soil, as well as by fishing and hunting. The cemetery is situated on a plateau overlooking the Little Miami river, eighty to one hundred feet above the river line. It is said to have contained about thirteen acres, and although the majority of the graves were found on an area of about four acres, Dr. Metz began a trench on the south edge of the plateau, running it north and south. About two feet below the surface he found an inverted vessel, resting on a skull, and soon afterward found others, making four vessels and four crania. The next day in a space 4½ feet square, enlarging this excavation, other vessels and skulls were found. He finally came to a circular pit, 3½ feet in diameter, and 4½ feet deep, which contained fragments of twenty-two skeletons. The work was continued; graves were found, the skeletons being in a horizontal position; and ash pits with layers of ashes in the midst of the graves. The skeletons were placed in all directions, some of them at right angles with others; some were parallel, but the majority were recumbent. The ash pits contained leaf moulds, charred wood, ashes and animal remains, fragments of pottery, two of them contained matting, shelled corn and ear corn, with a layer of boulders six inches deep at the very bottom. In one pit a

body was found doubled up, placed at the very bottom of the pit. In another pit there were two pieces of copper found on the bottom of the pit, and carbonized corn stalks and leaves. Other pits contained layers of white sand and white ashes, and with the ashes a great number of implements and relics. Some of the pits contained depressions at a depth of six feet or more, filled with white ashes and relics. These seem to have been pockets. More than one hundred pieces of copper were discovered in these pits, and many interesting relics.

About 1000 pits were discovered in the cemetery. It is supposed that they were made before the 600 bodies were buried, as

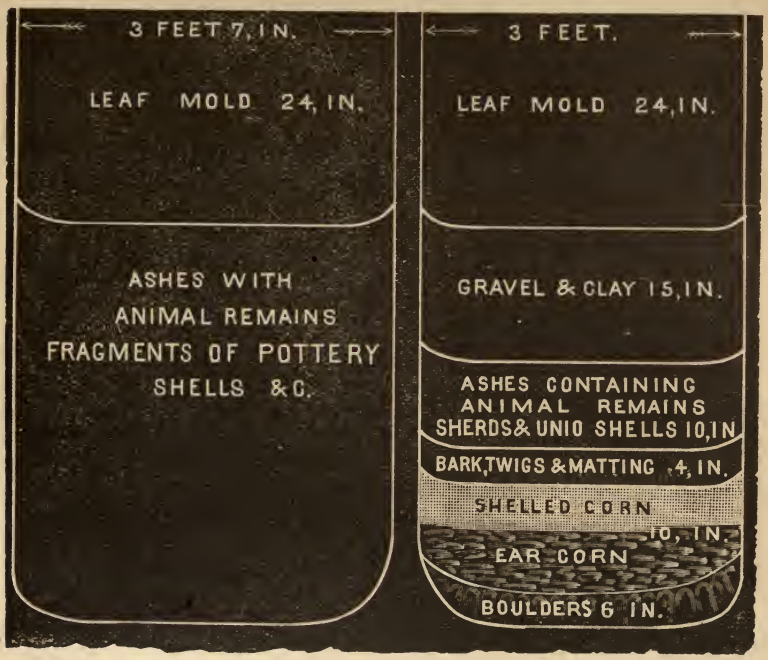

3 FEET 7, IN.
LEAF MOLD 24, IN.
ASHES WITH ANIMAL REMAINS FRAGMENTS OF POTTERY SHELLS &C.
3 FEET.
LEAF MOLD 24, IN.
GRAVEL & CLAY 15, IN.
ASHES CONTAINING ANIMAL REMAINS SHERDS & UNIO SHELLS 10, IN
BARK, TWIGS & MATTING 4, IN.
SHELLED CORN
10, IN.
EAR CORN
BOULDERS 6 IN.

Fig. 11.—Ash Pits.

a large number of the skeletons were found over the pits; still there are some evidences that the cemetery was used at a time preceding the digging of some of the pits, as in a few instances skeletons were disturbed when the pit was first dug, the bones having been taken up and placed at one side. Most of the pits are said to have been filled with ashes in more or less defined layers. Throughout the whole mass of ashes and sand, from the top of the pit to the bottom, were bones of fishes, reptiles, birds and mammals, those of the larger mammals, such as the elk, deer and bear, being generally broken. With the bones were shells of various kinds. Many of the valves had a large circular piece cut out near the center. The pottery obtained from

the pits was generally broken. A large number of implements made of bones of deer and elk were found in the pits. These bones seem to have been used as scrapers of some kind, as they were worn through in the center, and had sharp edges, bevelled on the inside. Bone implements in the shape of awls, bone beads, small whistles or bird calls, made from the hollow bones of birds, flat pieces with tally notches on them, a few bone fish hooks, and two or three harpoon points, were found.

The ash pits represented in the cut (See Fig. 11) may be regarded as typical of the whole series. These pits were partially filled with leaf mould, giving the impression that the pits had either been left open or that the contents below had decayed and let the upper part sink below the surface. The layer of gravel above the animal remains in one pit and of ashes in the other would indicate the same thing, for it is probable that these layers were uppermost and that originally they were at the mouth of the pits near the surface. The animal remains and bones were just such as would naturally accumulate after a great feast or after a prolonged encampment. They were, however, such animals as only wild hunters would be likely to feed upon—deer, elk, raccoon, opossums, woodchucks, wild turkeys, etc. The fragments of pottery indicate that the people used pottery vessels for cooking purposes. Our impression is that these vessels were accidentally broken and the fragments gathered with the debris of the camp and thrown into the pits. The bark, twigs and matting in the third layer also give us the same impression. The discovery of a large amount of carbonized corn, several bushels of it in one pit, covered with bark, twigs and matting, which was also burned, and above the matting the usual mass of ashes containing animal bones, shells, and other things, is to be noticed, on account of its bearing on the age of the pits. The modern Indians were accustomed to make caches for their corn. The covering for these caches was generally of bark and matting. We imagine that the people who deposited these relics were a people who lived in wigwams covered with bark and mats, very similar to those of the Algonkins. The corn conveys the same impression. It must have been at a comparatively recent date

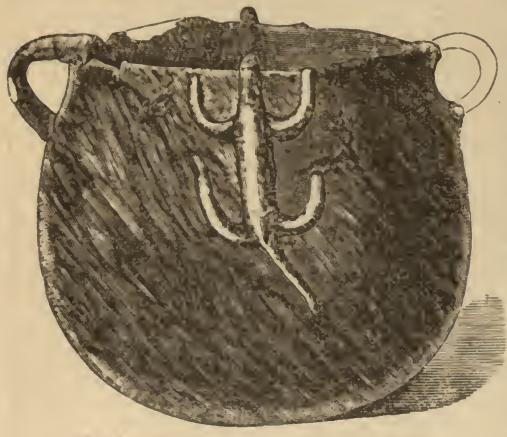


Fig. 12.—Pottery Vessel with Salamander.

that this corn was deposited. No such deposits have been found among the altar mounds, though the people who built these mounds were even more given to agriculture than those of the ash pits. The boulders at the bottom of the pit are also significant. A common way of cooking among savages is to heat stones and place them in the vessel containing water until the water boiled. Here we have boulders bearing signs of fire, as if they had been used for the same purpose.

According to all accounts, a kitchen midden, several feet in thickness and of considerable extent, existed at the head of a small ravine. It contained the same character of material as that found in the pits. In it were two or three areas about 50 feet in diameter, in which neither ash pits nor skeletons were dis-

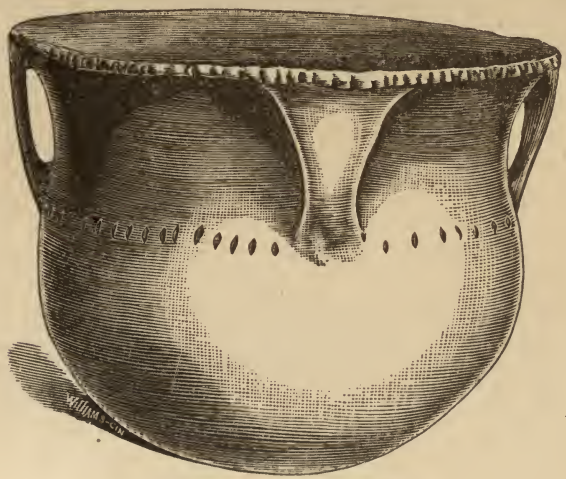


Fig. 13.—Pottery Vessel with Ears.

covered. The impression made by these areas is that they may have been council houses, and that after long residence the kitchen middens became places for the deposit of the refuse of the camps, and the pits the deposits of the sacred feasts and of religious offerings. This may have been at a time when there were no graves on the spot, the bodies having been placed in the ground subsequent to the time of the digging and filling of the pits, and probably by a different tribe. If a distinction were to be recognized between the graves and the pits and the kitchen middens, we should say that the graves were much more modern. Still they may have belonged all to one people. The ground which yielded the relics was only about four or five acres in extent. This was thoroughly explored. The burials were scarcely any of them lower down than two feet. The burials embraced all ages and classes, and remind us of the custom among the Indians of burying the personal possessions of the

individual with the body; pottery, beads and personal ornaments with the bodies of children; pipes, spear heads, tomahawks and other weapons with the men, and pottery vessels and ornaments with the bodies of the women.

Such is the general description of the cemetery and the ash pits. Our readers will realize from it that there was a great contrast between these and the altar mounds, and will conclude with us that two very different periods were represented, the one being the period of the Mound-builders proper and the other the period of the wild or red Indian. We think that the same impression will be gained from a study of the relics taken from the ash pits.

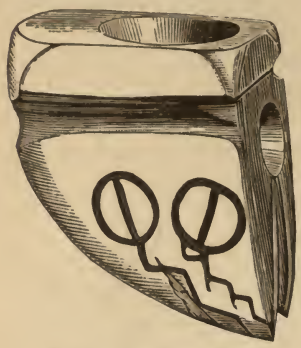


Fig. 14.—Limestone Pipe.

IV. We now turn to the description of the relics from the graves and ash pits. It will be noticed that these relics are much ruder than those taken from the altar mounds, though they have the same general character, being mainly in the shape of pipes, pottery and various copper relics.

(1.) We begin with the pottery, especially that taken from the graves in the cemetery. This pottery seems to have been well finished and contains many symmetrical-shaped vessels. There is, however, a lack of ornamentation, and so we should place it in a lower grade from that which prevailed in the altars. The abundance of these vessels, especially of whole vessels, is an-

Fig. 15.—Sandstone Pipe.

other very remarkable circumstance. It will be remembered that the pottery of the altar mounds was all broken, very few of the vessels being found complete. Here, however, the broken vessels seem to have been the exception. The pottery is all of one general type. It abounds with vessels which are made with ears on the outside, (see Fig. 13) the mouth of the vessel being drawn in and a wide flange being thrown out, the handle

being merely a band or strip passing from the flange to the bowl. The vessels were generally placed near the head of the skeleton; sometimes a stone pipe would be found in the hand. One vessel had a salamander moulded on the outside. See Fig. 12. This was found between two skulls; though the occiput of the upper skeleton, having been placed upon the vessel, had crushed it, Another vessel with a salamander was found near the feet of a skeleton. About 80 copper beads, 2 inches in length, rolled and twisted into a spiral spring, were found strung along the spinal column of another skeleton. These were in graves. In a pit were found two rolls of copper, five bone beads, a stone skin-dresser, a sandstone pipe, an ungrooved axe, and several bone relics. Two pipes and a large number of stone and bone relics were taken from another pit. A semi-circular piece of copper, through which a large root had grown, was taken from another.

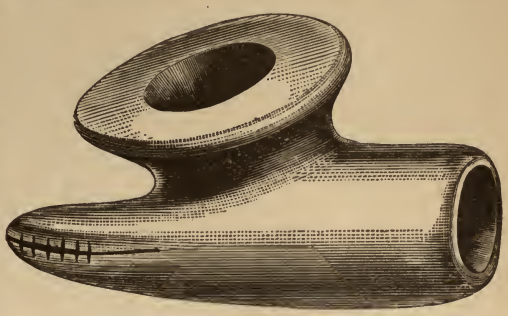


Fig. 16.—Catlinite Pipe.

(2.) We next take up the pipes. There were many of these found among the graves and in the ash pits, all wrought from stone, either sandstone, limestone or catlinite. None of the pipes were made from pottery. Some of them are wrought into shape so as to be imitative of some animal, either a wolf or panther, or a bird. Some of them are fashioned into round nodules, but have figures of birds inscribed upon the outside in a rude way. Some are mere tubes, with a flat bowl raised at one end above the tube. All were designed to be used with a stem, the hole for the insertion of the stem showing that some large-sized wooden mouth-piece had been used, probably just such a mouth-piece as was common among the later Indians. Not a single

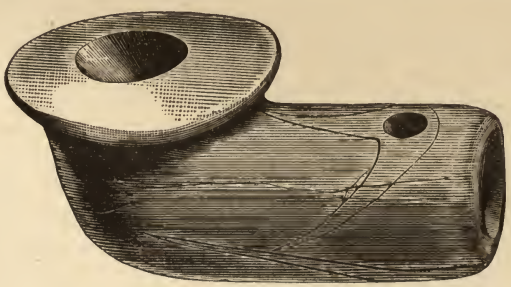


Fig. 17.—Catlinite Pipe.

pipe of the genuine Mound-builders' pattern was found, either in the graves or the ash pits.

(3.) Association of skeletons with pipes and pottery. The majority of these were in the graves, above the pits and near the surface, the vessels being near the head of the buried skeleton, the pipes near the vessels. This is seen by the following descriptions: In one case four crania and four vessels and several flint relics were found crowded into a space of less than four feet; in another place were seven skeletons, several vessels, and the pipe represented in Fig. 14; in another place seven crania were uncovered, and with them three broken vessels and the pipe represented in Fig. 15; in still another there were five skeletons and the pipe of red catlinite in the shape of a tube and flat bowl (see Fig. 16); another find consisted of shells, ashes, pottery and a stone

Fig. 20.—Limestone Pipe.

Fig. 21.—Limestone Pipe.

pipe. The skeletons lying horizontally generally had pottery vessels near the head. In one case a pottery vessel was found near the head and a jasper spear-head in the hand of a skeleton. The pipe represented in Fig. 17 was found with a pottery vessel near the head of a skeleton. Two skeletons lay across the feet, but no relics were with them. A limestone pipe (see Fig. 21) was found near the head of a large skeleton, and on the other side of the head eight small deer-horn tips, several arrow-points and a bone cylinder. One day seven skeletons were found, two of them children, and with one of the children the two-story pottery vessel, and on another day seven children. With these children was a pottery vessel, and in the vessel a piece of shell inscribed with dots and cut into notches. Soon after this the ash pits which contained shelled corn and ear corn were opened. These ash pits contained the bones of animals such as had been used for food—deer, elk, raccoon, opossum, mink, wood-chuck, beaver and turkey. In another ash pit was a pipe representing

a bear on its haunches. These finds were all remarkable for one thing—they were full of evidences of a peaceable burial, and in fact of a peaceable and industrial life. Very few weapons of war were found—pipes, domestic tools, food and the vessels for cooking the same—no coats-of-mail, no military badges, no crushed or wounded skulls, but many skeletons of children, women and old men.

Fig. 22.—Inscribed Stone.

(4.) There are several pipes which remain to be described, These have the same shape as those already given, but they differ in having figures sketched on the surface. See Figs. 14, 17, 20, and compare with 22.* These pipes are worthy of study, as they represent the art of the people. They seem to have been scattered indiscriminately among the graves and ash pits, and were the most curious of all the relics. One such pipe was found unaccompanied by a skeleton or by any vessel. This is

*We are indebted to the Society of Natural History of Cincinnati for the use of the cuts, and are happy to call attention to the collection of relics in the museum of that Society. A full report of the exploration of the Madisonville cemetery may be found in the third volume of the journal published by the Society

a rare case, pipes generally being found near recumbent skeletons and frequently associated with pottery vessels. A finely finished pipe, made of dark red catlinite, was found with five skeletons in a horizontal position. This pipe is a rude imitation of an animal head. Another pipe was taken from an ash pit. It had a peculiar form and was made of limestone. Another interesting pipe was found at the head of a skeleton which was horizontal, fifteen inches below the surface. This pipe is made of limestone, well finished, and carved to represent the head of the panther or wild cat. A copper relic in the shape of a two-barred cross was found near the neck of the same skeleton.

(4.) Shell ornaments and copper rings. One peculiarity of the cemetery "finds" is that, while the articles are very rude, they are made of different materials—copper, shell, bone, horn, pot-

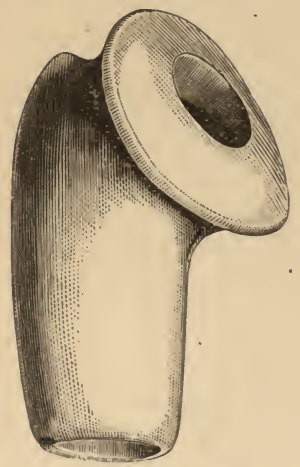


Fig. 23.—Limestone Pipe.

Fig. 27.—Limestone Pipe.

tery, limestone, sandstone, catlinite, shell, but no articles of gold or silver; no lead or mica, or obsidian; no quartz or precious stones, or pearls. There were beads and pendants, but these were made from shell and bone, never from pearl. The following relics were found with the skeleton of a female: Two perforated shell disks, about the size of a silver dollar, and a pendant also made of shell, near the neck. A stone flesher was found with this skeleton. A war arrow-point was also found in one of the dorsal vertebræ of a skeleton. This is a rare case, for very few of the skeletons show any signs of wounds received in battle. Copper rings, finger rings, have been mentioned by Prof. Putnam as a rare exception, only one case of the kind being mentioned. The rings were still on the finger bones. Agricultural tools made from antlers are common in the ash pits. They are "digging" implements. These digging implements must not be confounded with the flint hoes or spades common among

the agricultural races, for they are mere picks made from antlers and are very rude. So, too, the copper rings must not be confounded with the "copper spools," for no spools have been found in the cemetery.

(5.) An inscribed stone was found among the ash pits. See Fig. 22. It was a piece of limestone covered with very rude markings, some of them resembling the track of a turkey, others the heads of serpents, others the teeth of some animal, all very rude and apparently without significance, no symbolism being apparent.

V. We now come to another point, the comparison of the relics from the altar mounds with those from the ash pits. We have already shown that they were much superior as works of art and indicate a much higher grade of culture. This is in accordance with the old theory, first advanced by Messrs. Squier and Davis, that the Mound-builders were superior to the Indians, a theory which we see no reason for rejecting, though we should carefully guard it from perversion. This theory does not necessarily imply that the Mound-builders were a civilized people, nor does it even hold that they belonged to a different stock from the modern Indians. The difference in the grade of culture is the only point which we care to make. The differences between the altar pipes and those from the ash pits are worthy of especial attention. These differences are the same as may be recognized between Mound-builders' pipes and those of the later Indians. They are as follows: 1st, the altar pipes were all in one piece, and would be called simple relics; the pipes from the ash pits, as well as Indian pipes, are generally compound relics—that is, they consist of two pieces, a bowl and a stem. 2d, the altar pipes were generally of the "monitor" shape; the base is curved, the mouth-piece flat, bowl round or cylindrical, and the whole carved into some well-wrought figure. The pipes from the ash pits have cylinder shapes, among them the following: *a*, the tube with the bowl at the end on horizontal line; *b*, the cylinder with the hole for the stem in the side of the bowl; *c*, the round nodule; *d*, the irregular effigy pipe. 3d, the altar pipes were symbolic, either with crescents and circles embodied in them or with animal effigies, which may have been totems. The pipes from the ash pits contain no symbols. If the carved heads were totems, they were very rude, and can hardly be called symbolic pipes. The flat circle which rests upon the tube of certain pipes might be called symbolic, but on these pipes this flat bowl is at various angles and seems to have lost its significance as a symbol altogether. 4th, the altar pipes never have straight sides or angular corners, but every part is well rounded and finely finished. The pipes from the ash pits,

Fig. 24.—Copper Bell.

like many Indian pipes, have sides which look as if they had been sawed out, but are otherwise very rude. 5th, the two classes of pipes are in great contrast in regard to workmanship. The altar pipes have whole figures finished in the round, the birds standing out in full shape, the beasts generally with all parts complete, though sometimes the head and shoulders only are represented. In the ash pits no such pipes were discovered. Here the animal figures are merely heads, and they are very rudely represented—in one a simple gash in the side of the tube to imitate the mouth, in another a couple of projections to represent the ears, but no whole figures. Great contrasts are noticeable in the finish of the two classes of relics. In the first are lines which imitate feathers, wings and feet, and even the roundness of the feet. In the latter are no such lines, but everything is rude and wrought in the easiest way possible.

Fig. 25.—Pottery Vase.

We give a series of cuts to show the different shapes of the pipes. See Figs. 8, 9, 15, 16. It will be noticed that the pipes from the ash pits are nearly all cylinders—some of them horizontal, others perpendicular—but that the pipes from altar mounds rarely have the cylinder shape. This distinction does not obtain so thoroughly elsewhere as here, and yet it would seem as if the pipes of the Mound-builders and of the Indians could be distinguished in this way.

VI. We now call attention to another class of relics, namely the class which has the appearance of being imitations of modern historic objects. This is an important point. We have all along maintained that the ash pits were among the latest or most recent of the prehistoric tokens. We now are to ask the question whether some of them were not actually subsequent to the historic date. Let us first state that there was after the time of the discovery by Columbus at least two hundred years before the interior was visited to any extent by white men, and that another hundred years passed before the interior began to be settled. During this time many missionaries labored among the native tribes. As to the tribes which occupied Southern Ohio, it is supposed that the Eries were the first, the Shawnees the

second, the Delawares the third, and the Wyandottes the fourth, all of them, however, wild Indians. Now which of these tribes made this particular spot their home we may not determine, but our opinion is that perhaps both the Shawnees and Delawares may be credited with the relics of which we are about to speak. We take up the different relics as they were discovered and place these modern-looking specimens by themselves, and ask the question, How came the semblances, except that there was a contact with the white man somewhere? First, let us take up the sleigh-bell. See Fig. 24. This was found in the grave of a little child. It was made of a single piece of copper folded together in the shape of a little hawk-bell, and furnished with a rude handle. There was inside of it a bit of copper about as big as a pea. The bell had a musical tinkle to it. It was evidently a toy, and was buried with the child as one of its possessions. Next to this is the vase represented in Fig. 25. This vase is very rude, but it is in imitation of a modern vase, or possibly of the chalice. Its upper part is, to be sure, in the shape of a common cooking vessel, and retains the ear and rim, but the base is that of a modern goblet or chalice. It suggests a contact with the white man. The third specimen differs from the others. It is in the shape of a heavy, rude, coarse comb. It was made from elk-horn. It was found in an ash pit. It shows the domestic habits of the people, and reminds us of their wild life. The fourth relic is one which again reminds us of the missionary who is supposed to have been the first white man who gave a modern pattern to an Indian relic. This relic is in the shape of a double-barred cross. It is of copper, and has an appearance as if it had been used as a crucifix. It may have belonged to some devout female, who was too poor to own a silver crucifix and therefore manufactured one from copper. This cross was found in a grave in contact with a body and associated with the panther pipe which has been mentioned above. The resemblance to the modern catechumen's cross is the strange thing about it. The next is a pipe with the image of the spread eagle sketched on the outside. See Fig. 26. This pipe was not found in a pit but on the surface, having been rooted up by hogs which were in the lot. It is a sandstone pipe, and is quite rude, but the eagle reminds one of the spread eagle, which is purely modern.

Fig. 26.—Eagle Pipe.

There are relics which have a modern look. One is represented in Fig. 27. It is a limestone pipe picked up on the surface This pipe has straight sides and beveled angles, and reminds us

of some remarkable relics which purport to come from the State of Michigan, but have been regarded as fraudulent relics. It is possible that some wandering tribe had dropped this specimen here and that the same tribe wrought the Michigan relics. We have spoken of the iron axe found between two graves in this cemetery. This axe must have been made by a white man, and proves that some of the relics at least were deposited after the advent of the whites.

This subject of modern-looking relics may give rise to discussion, for there seems to be a diversity of opinion on it. We here quote from different authors. Prof. Putnam found a relic resembling the cross in Tennessee, but he says of it: "The cross like form might give rise to the question of its derivation. Had any article of European make, such as glass beads or brass buttons, been found, I should consider the form of the ornament the result of contact with the early missionaries. But from the absence of articles denoting such contact, I think it must be placed in the same category as the well-known cross at Palenque." Mr. C. F. Low also says of the relics in the cemetery: "Nothing has ever been found *in situ* which shows any evidence of association with European races." Prof. J. T. Short compares the relics to those of other aborigines, and says: "As regards the races to which the people belonged, whether to the stone grave people, as the crania would indicate, or whether they were the last remnants of the powerful nation who built Fort Ancient and other great works—these and similar inquiries remain unanswered." Still, we would say that the various relics, the copper sleigh-bells, the catlinite pipes, and the two-barred cross, were all found *in situ*, and they seem to indicate a contact with the whites.

It is to be remembered the cemetery was near mounds, that large trees were growing on this ground, and that some of the bodies were found underneath the very roots of these trees, showing that at least some of the burials must have been many years ago, probably before even the time of the discovery. If this is the case, then we have a history contained in the cemetery which covers three or four hundred years, and back of the cemetery another history in the altar mounds, which cover several centuries more, and so in the two classes of remains may find a record for perhaps a thousand years.

CHAPTER XVII.

RELICS SHOWING THE CIVILIZATION OF THE MOUND-BUILDERS.*

The subject which we have taken for this chapter is one over which there has been much controversy and concerning which there is even now much difference of opinion. The civilization of the Mound-builders at one time was supposed to be nearly or quite equal to that of the ancient races, and the expectation was that the people would be discovered as immigrants into this continent who were identical with some of those known to history. Theories were advanced as to the Phœnicians, the Babylonians, Egyptians; and resemblances were traced in the relics and pottery faces which aroused imagination and gave rise to much conjecture. The opinion became wide-spread that the lost tribes had gained a home in this distant land, and from this came the strange delusion of that immense system of imposture, the Mormon religion. Latterly the thought has gone to the other extreme The civilization of the Mound-builders has been confounded with that of the wild Indians. All civilization has been denied them; their works and relics have been ascribed to the various tribes which had their abode on the land where they are found, the difference between the earlier and the later tokens completely set aside and new tokens have been dilligently sought for, until it has become a fixed conclusion with many that the cult of the Mound-builder and the Indian are exactly identical, and the two classes of people exactly the same.

Now, we have no especial controversy with the advocates of this theory, but desire to present a few facts which will show that there is another side to the question. We believe that the migration of the Indians would preclude all dogmatic assertion as to the identity of the Mound-builders with any known tribe; that the succession of periods of occupation also requires us to separate the tokens from one another, and distinguish between the works and relics of the early and later people, and that the interests of science demand that we still keep our minds in suspense as to the question whether there may not be hidden away in the depths of the mounds the evidences which will yet prove

*This chapter is made up largely of extracts from an article published in *The American Antiquarian* for May, 1891.

a contact with civilized races during pre-historic times. Strange reverses take place. The case has not gone so far but that a single discovery well authenticated might turn the scale back, and the coviction would become strong that the touch of civilized man was still to be recognized. We are aware that at present all such evidences are immediately explained away as soon as they arise, and the advent of the white man is regarded as sufficient to account for every strange thing; but when winged figures and other tokens are taken from the depths of pyramid mounds, when bastion forts are associated with ancient burials, when eastern symbols are found in the midst of western relics, and the strangest contrasts are manifest between the finished ornaments and the rude relics, and so many tokens come before us which seem out of place when in the hands of any Indian known to history, we must pause and think twice before we deny the assertion that possibly these came from contact with some foreign country in pre-Columbian times.

In reference to the question whether civilization actually obtained among the Mound-builders, we would say the term is an indefinite one. Technically speaking, we suppose that no American race could be called civilized. Civilization came in with the iron age, and so belongs only to the historic races. In America the people were chiefly in the stone age, though bordering on the bronze. Still we have fallen into the habit of calling some of the American races civilized, and we see no good reason for discontinuing the term. The inhabitants of Peru and Central America, as well as those of Mexico, are supposed to have reached a stage of civilization which, were it not for the absence of iron, would overlap the early conditions of the historic lands, and it does not seem wise to make ourselves so arbitrary as to deny the word to them. The Pueblos and other tribes of the great plateau were in a stage of advancement which warrants us in calling them semi-civilized, and yet the Pueblos never passed through the bronze age, and so far as we know were even without the use of copper. The Mound-builders and the people of the Mississippi Valley would naturally be called uncivilized, and yet some of them seem to have been so far advanced that it is a question which exceeded, they or the Pueblos of the west. The Indians are generally called savages, but many arguments have been advanced to prove that they were fully equal to the Mound-builders, and the name is freely applied to the Pueblos and even to the civilized races of Mexico and the Central provinces. It seems to be, hen, largely a question of words. If we confine civilization to the historic countries we certainly cannot ascribe any degree of it to the Mound-builders. If, on the contrary, we use the term Indian to mean what Columbus discovered, we might take in both continents and call all the inhabitants of the East and West Indias and of North and South America all Indians; but it

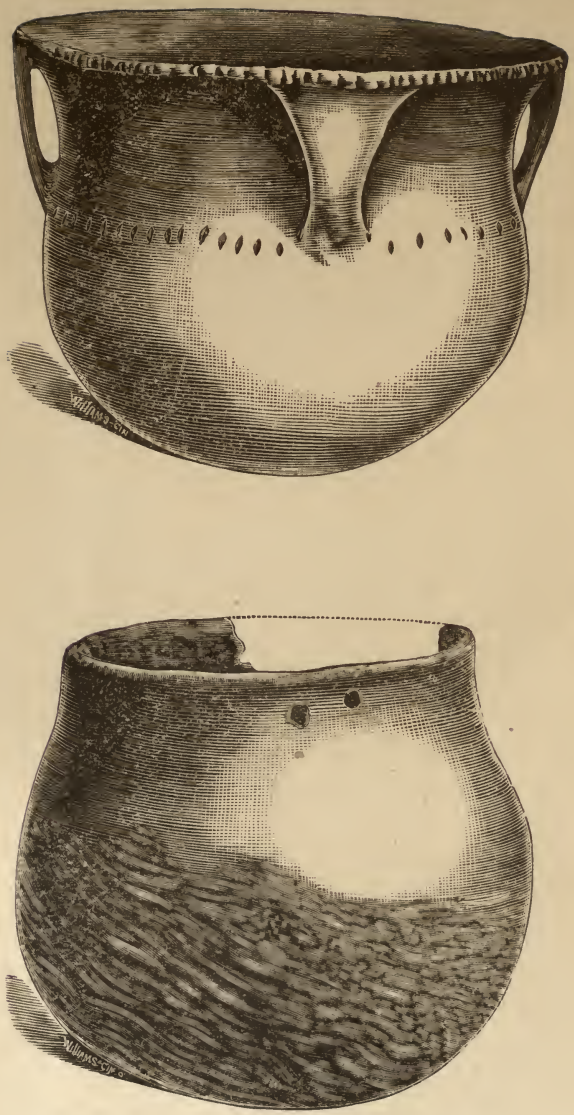


PLATE I.—POTTERY FROM ASH PITS.

PLATE II.—POTTERY VESSELS AND PIPES FROM ASH PITS.

seems better to take the words in the popular sense, and then speak of the American race as we do of the Asiatic or of the European: to admit that there were different grades of civilization existing among them.

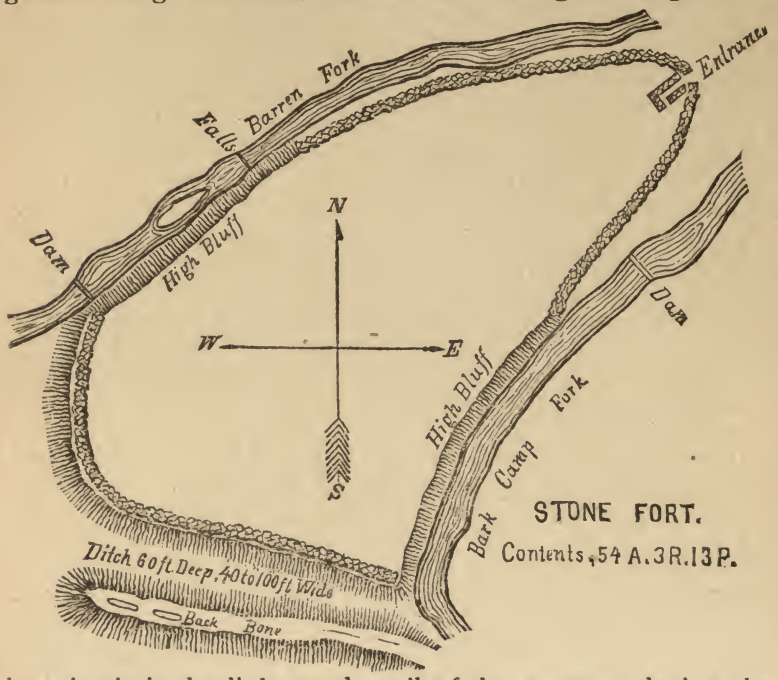
In commencing our search into the social condition of the Mound-builders, and keeping in view the main question involved—do they in themselves yield positive or even circumstantial evidence of an actual or apparent degree of civilization—these three qualifications must ever be kept in sight: 1, the locality in which they are found; 2, the material of which they consist; 3, the age to which they are to be assigned.

With these also must be carried throughout a comparison with the facts known and positive in the universal history of civilization among other races.

I. The localities in which the mounds are discovered are as varied as the length and breadth of this continent can make them; beginning up in the cold climate of British Columbia, through the temperate zone, where the best energies of mankind most surely develop, down to the luxurious ease of the tropics all around the gulf shore into Mexico. But throughout the whole range which this broad outline includes there is invariably a marked, strong peculiarity. A national taste is shown in the selection of sites; *always selected*, never stumbled upon haphazard; and while surroundings of scenery and climate greatly influence character, the settlements made by these people were permanent villages, whether beside rivers, in fertile plains, in agricultural or pasture lands. None have been found in the Atlantic States, nor in Canada north of the great lakes, because, as I think, the savages were there. The sites most known are on the Ohio, the Missouri and the Mississippi, but it is best to take them regularly, and commence at the northwest.

A British Columbia paper of 1872 describes a mound twenty-five miles from Olympia, with smaller ones scattered over an area of fifteen miles. Wilkes, in his exploring expedition, describes groups of them in the Butte prairies of Oregon, many thousand in number. Many of these are small hillocks in close proximity, clusters of hundreds at a place, as though for settlements or encampments hastily thrown up, or built so close for warmth or for protection from wild animals, or from possibility of attack from previous owners of the land. As these necessities or fears vanish, other needs and necessities arise; instinct as well as increase urges their advance inland, and we find the mounds rapidly changing into distinct branches and systematic organizations. *The Denver News*, 1873, states a mound had been lately opened in Utah, yielding relics of great artistic skill. "Others are found on Big Horn River. Half a mile west of Golden City, Colorado, are the remains of a laid-out city; on the Yellowstone River is a regular city of mounds, streets regular and mounds equidistant; eighty-seven mounds

in good condition, sixty-three in ruins. Other settlements are on the banks of the Moreau and of the Great Cheyenne."* Mr. Bertrandt states such remains are found at the mouth of the Yellowstone and Upper Missouri, near Clark's Creek, Dakota. Further east, along the States bordering on the Upper Lakes, but always tending southward, are the peculiar shapes of animals, like huge *relievos*, or sometimes in *intaglio*, large settlements in the rich, prolific lands of Wisconsin. In Michigan are the garden beds, where fruit and vegetables grow so



luxuriantly in the light sandy soil of that country during the comparatively short summer. In Northern Indiana there are fields from ten to one hundred acres, "running," as some one has pointed out, "in different directions as if one family had a separate patch."

The animal shape is occasionally found further south than Ohio, but there in the broad level, well watered and sufficiently wooded lands, where the really important villages seem to have been built, we find the outlines of the mounds most distinctly regular, very exact in measurement, very much larger, and of consequence enough to be protected by embankments, showing, also, that there where they had the largest cities, they also met foes wild, unscrupulous and inscrutable. Of these mounds in

*Mr. James Deans states that many mounds are to be seen in British Columbia strongly resembling those in the Mississippi Valley.

Ohio, Squier and Davis particularly point out that their remarkable distinction is in the perfection of figures in which the erections are made; and those writers hold it as an incontestable proof that they who planned them possessed a standard of measurement, and an exact means of determining angles. "It has been ascertained that the circular enclosures are perfect circles, and the squares perfect squares, constructed with a geometrical precision which implies a knowledge in the architects that we should call scientific."† At Hopetown, Ohio, at Liberty, Ohio, the exactness of the measurements are unquestionable; Pike county is a square within a circle, as well as many others.

Fig. 1.—Fortified Villages of the Mound-Builders.

The mounds abruptly stop with the Alleghanies, and we follow their direction southward. In Tennessee, where the Cumberland mountains terminate, near the Tuscumbia and Florence, and the mouth of the Big Black River, a large tract of country along the valleys of these rivers was once densely peopled. The Mound-builers were undoubtedly at work there; but it must be equally understood, that as they crossed the Ohio and traveled southward, they mingled, either peaceably or forcibly, with another civilized people,—those who had spread up from Central America,—because the tumuli, in many instances, are not only truncated pyramids, like those of Mexico and Central America, but are carefully planned with their lines

†Ancient Monuments.

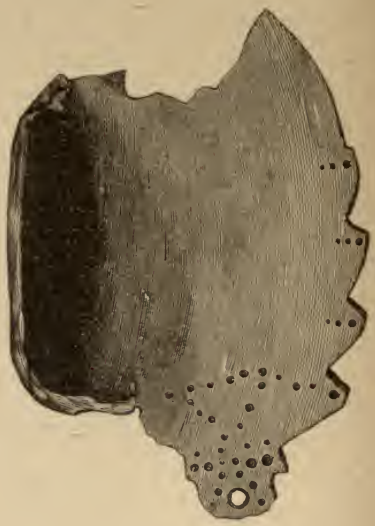


PLATE III.—POTTERY AND SHELL ORNAMENTS.

by the cardinal points. Another definite proof of this is given in the November number of THE AMERICAN ANTIQARIAN in the "Inscribed Shells from Tennessee", bearing a striking similarity to the figures carved on the ruins at Palenque.

The great southern country, lying between the Potomac and Ohio, on the north, the Gulf, on the south, the Atlantic, on the east, and stretching west beyond the Mississippi, is also the site of innumerable mounds. With the usual indifference of all the early travelers, to everything save the search for gold, no discrimination was made between the dwellers in the south and any "other Indian tribe". But the incidental allusions and the descriptions of Spanish and other early writers help us to see, partly, that which, had they not been so blinded, might then have been clear and comprehensible.

Garcillasso de la Vega, in his account of De Soto's raid across the country, among other things, says: "The houses of the chiefs were, with scarcely an exception, built on large, elevated artificial mounds, large enough to sustain the houses of the chief and family,—making quite a little town of itself. At the foot a large square was marked out, around which the great warriors built their houses. The inferior classes put up their dwellings beyond and around. Some of the mounds had several stairways, made by cutting inclined planes, fifteen or twenty feet wide, flanking the sides with posts, and laying poles horizontally across the earthen steps to form a wooden stairway. But generally the lofty residence of the great ruler was approached by only one flight of steps. The mounds were steep and otherwise inaccessible."

At one time, De Soto was met by a chief with five hundred warriors, who escorted him to a town containing three hundred houses,—that of the chief being on an elevated mound, surrounded by a terrace wide enough for six men to walk abreast.

At the great town of Chiaha, the chief offered the Spaniards twenty barns full of corn, quantities of bear's oil kept in gourds, walnut oil as clear and appetizing as butter, and pots of honey.

With regard to their manufactures "it is readily conceded that the Southern Indians exceed all others in the ceramic art: the women knew how to make earthen vessels so large and fine our potters with their wheels can make no finer." * * * "Amongst them we do not find the women condemned to do all the work; the men had their share of the hard labor, but the women were experts in weaving handsome carpets. They passed the woof with a shuttle, using a couple of threadles with the hand, like weavers before machinery was used."* Every description of these people, evidences in their religion, in their buildings, in their customs, a civilization partly fallen into

*Harcot's Virginia.

desuetude rather than a merely advanced stage of the wild, untutored savage. Some of the earliest travelers called them the Muscogees, but the English when they first began to explore the country called them Creeks, because they invariably dwelt in the lovely valleys on the banks of the streams running in all directions over the country.

In that word "dwelt," we note the distinguishing line betwixt them and the "Indian," whose wandering propensities are the inevitable and inalienable indication of his race. After the Spanish raid through the southern country, the disheartened remnant of the inhabitants would become an easy prey to the warlike Indians of the Atlantic, probably the same who had driven their ancestors from Ohio; and thus account for the mixture or varieties of tribes spoken of by the early travelers and writers of the southern lands.

Fig. 2.—Mississippi Pottery.

II. Material used by Mound-builders. Time and climate having beaten on them for several centuries, all—whether originally made so or not—have become rounded and covered with earth and grass so as to give the appearance of natural hillocks, which originated the name. But the shapes, as already mentioned, have since been found to be very varied, as well as very exact in their measurements, when they reach the Central States. In these States they are not only much larger, but are also surrounded by earth-works, as though for defense, having apparently made permament settlements and finding to their cost warlike Indians on their northern and eastern sides ever ready for unheralded attacks. The embankments are sometimes around single mounds, which would possibly have been a temple or important building; some are around a cluster, evidently enclosing a village or town; a ditch or fosse is sometimes inside, sometimes outside, undoubtedly a double guard to a temple or a cemetery, to their crops, or to a circle for their national games. Lines of embankments, from five to thirty feet in height, enclosing from one to fifty acres, are common; those from 100 to 200 acres are sometimes found. The material used in building was evidently that nearest at hand. Being an agricultural people, they would fell trees to clear the land,

and use the wood to make palisades or pillars to support the foundations of earth, or to frame into the lintels of the doorways. "On the coasts of Florida the houses were built of timber, covered with palm leaves and thatched with straw. Those further inland were covered with reeds, in the manner of tiles, while the walls were extremely neat. In the colder regions, a little farther north, every family possessed a house daubed inside and out with clay for a winter house, and another open all round for summer. The houses of the chiefs were large, had piazzas in front and in the rear, with cane benches of comfortable dimensions. They also had lofts, in which were stored skins, mantles and corn. In one house was found a tabor with golden bells. One remarkable temple, 100 feet in length and forty feet in width, with walls high in proportion, had a steep roof covered with mats of split cane, interwoven as compactly as the rush carpeting of the Moors. The temple was entered by three gates, at each of which were stationed gigantic wooden statues, presenting fierce attitudes. Some were armed with clubs, maces, canoe paddles and copper hatchets; others with drawn bows and long pikes. All were ornamented with strings of pearls and bands of copper. In niches round the walls were wooden figures of men and women, natural size; on the sides of the walls were benches, on which lay the boxes containing dead chiefs and their families, with their families below them, shields of various sizes between them. Chests with valuable pearls and valuable mantles of feathers were in the center of the building, as well as in an adjoining store house."* If all these wooden buildings have long since disappeared, how much more reasonable that the house which their ancestors had used and forsaken further north, centuries before, are entirely dissolved into their mother earth, with most of their human occupants.

Fig. 3.—Banner Stone from the Stone Graves.

Fig. 4.—Banner Stone.

*Bartram's Travels.

REESE LIBRARY OF THE

At Seltzertown, Mississippi, is a mound six hundred feet long, four hundred feet wide, forty feet high, its level summit having an area of four acres; there was a ditch around it, and near it a smaller mound. "The north side of this mound is supported by a wall of sun-dried brick two feet thick, filled with grass, rushes and leaves." Here were also angular tumuli, with corners still quite perfect, "formed of large bricks bearing the impression of human hands." In Louisiana, near the Trinity, there is a large enclosure "partially faced with sun-dried bricks of large size."*

Again I suggest that if bricks were found there, they were probably the material used with wood and earth in the buildings farther north, put up by an agricultural people and forsaken by them centuries previous, when forced to move south, either from internecine quarrels or incessant attacks of their wild enemies.

Fig. 5.—Pottery from the Moqui Pueblos.

Within the mounds have been discovered articles of domestic as well as war-like use, of religious worship as well as personal adornment; and in this investigation it must be remembered that the "Indians" have roamed at will over these lands during the many centuries since the builders left them, hunting and fishing, lighting their fires and burying their dead, no doubt with some admixture of the knowledge and of the customs they had seen and the companionship of the prisoners they had taken. Amongst the variety of articles found are, of course, the universal arrow-heads; some of them of fine workmanship, cut in jasper and chalcedony, as well as obsidian and chert; spears and knives, chisels, axes, awls. At Salline River, near Salt Springs, kettles have been found, which were evidently moulded in basket-work, for the pattern on them is very regular and ornamental. Pottery is everywhere. In Missouri were found water-coolers, having human figures with intelligent faces, not of the Indian cast of countenance. Pestles and discoidal implements of exact finish are abundant, and in Professor Cox's collection at Indianapolis is a piece of amber-colored translucent quartz, which some one has described "as being symmetrically grained and polished in a way that would now require a wheel

*Baldwin states this on the authority of Dr. M. W. Dickeson.

and diamond dust." In some mounds have been found pieces of fabrics which, though coarse, are woven with care and regularity, with threads of uniform exactness, for the making of which are also found the shuttles of various sizes, well finished gauges and weights to regulate sizes and keep the threads taut.

We give cuts to illustrate this point. See plates. Our readers will notice that the pottery from the ash pits, which are supposed to be modern, is quite rude, and that the pottery of the stone graves is much superior.

One or two still more remarkable things have been turned up from mounds in various parts. In the mound in Virginia were many specimens of mica. The only mica mines were in North Carolina.

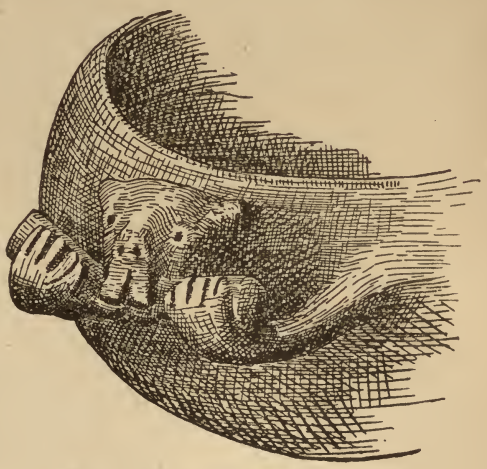


Fig. 6.—Pottery from the Stone Graves.

From the mounds have also been dug up quantities of copper and copper implements and ornaments all over the country. Moreover it is always one peculiar kind of copper, having spots of pure silver studding the face of it, as if natural to it—not alloyed with it. Copper of this peculiarity is found only in the copper beds of Lake Superior. No settlements have been found near the mines of Lake Superior. The geological report to the national government describes these old mines as being chiefly surface work—that is, the surface of the veins was worked in open pits and trenches. The Minnesota mine, in Upper Michigan, was only excavated thirty feet, and here "Mr. Knapp discovered a detached mass of copper weighing six tons. It lay upon a cob-work of round logs or skids, six or eight inches in diameter, the ends of which showed plainly the marks of a small axe or cutting tool. They soon shriveled when exposed to the air. The mass of copper had been raised several feet, along the foot of the lode on timbers, by means of wedges."* This was in 1848, and old trees, showing 395 rings of annual growth, stood in the debris, and the fallen and decayed trunks of trees of a former generation were lying across the pits. In Michigan, also, were the garden beds for the quick growing supplies of summer food. Is not the inference clear

*Baldwin.

that the "Mound-builders," having found these mines on their journey south, and requiring such material, would send up every summer a party of workmen for their supplies; and, being an agricultural people, yet needing the copper for their implements, they would manifest exactly what one writer expressly says of these Michigan mines, "The old mines everywhere show the strange peculiarities of both knowledge and lack of knowledge." The miners' tools which were found have been a matter of wonder to the archæologist ever since the discovery.

The different material of which the mounds are formed, as well as their shape and their relative position, show their different intent and purpose. While some were lodge buildings, or residences of the rulers, or temples, others were altar mounds, which were of burnt clay, of fine material, and often brought from a distance. At Mound City, Chillicothe, Ohio, there were found two layers of limestone, chipped in the form of discs and spear-heads, six hundred of them. In another mound the costly offerings of the most highly finished pipes and other ornaments.

It has ever been the custom with civilized people, as well as barbarians, to bury articles of value with the dead. The Scythians, the Egyptians, the Indians, the Aryans of the Vedas, the Jews, the Greeks, the Christians, all have done it. We find it no less among the Mound-builders. All did it, according to the customs of race, from the old Chaldean sceptre, the Egyptian obolus, to pay the trip across the black lake, down to our present funeral wreath; changed in token and in signification, but nowhere broken in historic sequence. Therefore, it is as much a sign of civilization as of a wild Indian to find the links of earthly habits laid beside the bones of the Mound-builders, when their spirits had fled to the Happy Land. I have already pointed out the importance of remembering the effect of time and climate, especially in this country, when sun and air seem to take more rapid effect, both in growth and decay of the natural world, than in other parts, and supposing these mounds were left eight hundred or a thousand years ago, is it wonderful no more evidence of their inhabitants is left? In approaching the south and towards Mexico, where they mix with the stone-building nation from Central America, walls and ruins are still standing. Moreover the southern settlements were probably the latest in existence. If it be asked why no remains of masonry and stone-work are to be found amongst the ruins of the mounds in the Central and Southern States, the answer is that a pastoral people were not hewers of stone; and for the reason that their sites were in agricultural lands and they would not be where stone quarries were available. In this country wood in abundance was at hand; but when the settlements were left it would decay, and if bricks were used they, too, would crumble into dust.

III. The subject of resemblances comes next. It was custom-

ary in Asiatic countries to build the cities on an elevation, the whole city surrounded by an embankment and a deep ditche sometimes only the palace, the temple and the important buildings were elevated. When Layard first found Nineveh it was only a varied accumulation of mounds, though of course in that instance some of the solid foundation was beneath. Yet it was only the great cities which had such durable foundations. Many a mound that marked an ancient dwelling has been tramped over unnoticed by the armies of the successive nations that have held sway over the great belt of Central Asia. Here then a pastoral people came to dwell, and to imitate in their way and with available means the dwellings of their own old lands, or of the haughty nations in the midst of whom their ancestors had lived, only the wild native and the wild nature had in their fitful moods obliterated by degrees the tangible proofs of such existence, and left only the mounds of earth in their place.

Professor Davidson says he has seen arrow-heads from the eastern hemisphere exactly similar to those of the western. Other implements found here are exactly such as are described in use by the ancient nations of the orient.

If the natives of the south, when De Soto first invaded them, were dwelling in houses built on mounds, with wooden stairways, supports, etc., and having large stores of corn, of oil, of honey, as well as of woven fabrics, of copper and of pearl, and if some of them have traditions and picture writings of long wanderings and various settlements, is it not within the limits of probability that their ancestors were once from the Old World?

The point that we make is that back of the Indians' comparative rude condition was the higher condition of the Mound-builders, but back of the Mound-builders was a civilization which so closely resembles that found in historic lands as to give rise to the idea that it may have originated in those lands. We do not undertake to say how it came into this far-off region nor by what routes, and yet it does not seem possible that the resemblances could be so great unless there was a filtering at least of these old time-honored conditions. The routes may indeed have been from different directions—the pyramid-builders from the far southwest, and originally from the distant Asiatic coast; the serpent-worshipers from the distant east or northeast, and originally from the European continent; the tomb-builders and hunters from the northwest, and originally from the Mongolian regions; the military classes and the villagers of the central district may either come from the northwest or the northeast; yet whatever the route, and howsoever distant the original source we can not fail to see very close analogies. The supposition with some is that these are merely accidental; they are all to be accounted for on the ground of parallel development. But to others they have been so striking as to give rise to the strangest theories, concerning which we have spoken.

This is to be considered, too, in this connection, that the farther back we go the more striking do the resemblances seem. These resemblances are, to be sure, explained by some as the result of very recent contact with the white man, but by others as the result of pre-Columbian contact with foreign countries, and this seems to us the more reasonable explanation.

It is noticeable that we have not only the modern-looking forts, such as the one on the Tennessee River, with bastions scattered along its walls at intervals of about eighty feet, and with re-entering angles exactly like the European forts, but inside of the enclosure we find the earth pyramies and regular burial mounds, which in all respects resemble the Mound-builders' works. In the same region we also find stone forts, built after an aboriginal pattern, with gateways arranged in angles similar to the Toltec gateways. See cut p. 342. We have also from the same region pottery, containing many portraits, which remind us of nearly all the civilized races, but among these faces are others which are purely aboriginal. We find in the southern district also various ornamented banner stones, with the Greek fret plainly depicted on them, but more exact ornaments of the same pattern are found in the pottery vessels from the Moqui pueblos in Arizona, and still more exact patierns and regular figures may be seen on the front of the Governors' House in Uxmal, in Central America. The looped pattern may also be seen on the pottery of Mississippi, as well as on the various shell gorgets of the stone graves, reminding us always of similar pattnrns common in civilized countries. We find tablets and gorgets which contain all of the symbols common in oriental lands, such as the cross, the suastika, the fire generator, the serpent, the tree, the crescent, the sun circle, the horse shoe, the owl and the dragon; but with these are figures purely aboriginal, and which could uot have originated elsewhere than among the Indians. We find in one case—in the Davenport tablet—inscribed figures which, if genuine, prove a phonetical alphabet to have been known, but in the Thruston tablet the figures are so extremely rude as to give rise to the idea that none but an Indian could have devised and inscribed them. The winged figures spoken of as found in the Georgia pyramids remind us of historic and oriental art forms, but the relics from the same mound were evidently of native workmanship. So with all the works and relics, a strange mixture of foreign patterns with native execution, always suggesting to us that in some way the touch of civilization was still preserved, notwithstanding the prevalence of barbarism or savagery on all sides.

We give illustrations of these points in the cuts furnished herewith. See Figs. 1, 2, 3, 4, 5, and 6. The first represents the ancient forts on the Tennessee River. The mounds within the fort contained many charred logs and various flues and furnaces, giving the idea that they may have been the remains of

houses. The other figures represent the pottery of the Southern Mound-builders. It was fully equal to the pottery of the ancient Pueblos and in many respects equal to that of the civilized races.

IV. As to the social status of the prehistoric villages, we may say that they represent three distinct grades, the first being the upper stage of savagery, the second the lower stage of barbarism, the third the semi-civilized condition.

Mr. L. H. Morgan has divided the ethnical periods—savagery, barbarism and civilization—into sub-periods, making a lower, middle and upper condition of savagery, and a lower, middle and upper condition of barbarism; he has placed the village Indians upon one side of a line, assigning them to the lower status of barbarism, but the "partially village Indians" upon the other side of the line, assigning them to the upper status of savagery. It is, however, a question whether the term "partially village Indians" should be used, for village life prevailed among

Fig. 7.—Frog Pipe from Indiana.

all classes. What the author means is, the hunter Indians occupied temporary villages, while the Pueblos of the far West occupied the more permanent villages and were thoroughly organized upon the communistic plan. We would, however, place a class between the two and identify them with the Mound-builders, making their villages the test by which we ascertain the difference between these three classes. This difference consists not so much in the fact that that they represented different modes of life or different grades of advancement, as that they represented different styles of architecture, different styles of art, and different systems of religion, as well as different localities, or habitats. By this means we are able to classify the villages.

We classify the grades by the villages. 1. We place the stockade villages in the first grade, and divide the people into hunters, warriors and nomads. 2. The extensive earth-works which are found in the Middle and Southern States, embody the Mound-builders' villages. We ascribe these to the second grade, and divide

the people into horticultural, agricultural and sedentary classes, giving each a different class of works. 3. The Pueblos, who used adobe or stone, and built their villages in terraces, we assign to the third grade. They may be divided into three classes. Those who erected their pueblos in the valleys, and those who placed their villages on the mesas and defended them by their location; and those who placed their houses on the sides of the cliffs, thrusting their villages into the niches, making the

Fig. 8.—Stone Pulleys from the Stone Graves.

defense which the cliffs furnished the chief object. These cultivated the soil by irrigation, had domestic animals and practiced the art of weaving. Their pottery was highly ornamented and their symbolism was elaborate.

But all of the more ancient races, Mound-builders, Cliff-dwellers and Pueblos, seem to have been invaded by hordes of wild tribes who either drove them from their original seats or shut them up in their fortresses and finally reduced them to a decimated state, their territory being limited, their advancement hindered by the constant pressure of their enemies. The initial point of the migration of these later races is unknown, though according to later investigation there seems to have been three centers: 1st. The valley of the Columbia, the seat of the wild

Fig. 9.—Flint Hoes from Tennessee.

tribes, such as the Apaches, Comanches, etc., that crowded down upon the Cliff-dwellers and Pueblos and drove them from their ancient possessions. 2d. The peninsula between Lake Superior and Michigan, the seat of the Ojibwas and Athabascans, the nursery land of the many Algonquin tribes which spread over the entire region between the great lakes and the Ohio River and drove the Mound-builders from their possessions. 3d. The region north of the St. Lawrence River, the nursery grounds of the Iroquois tribes.

The cultivation of maize and plants tended to localize some of these tribes, so that the Iroquois, the Cherokees, and at one time the Dakotas, were established in smaller areas and rapidly grew into the condition of advanced village Indians; but these are the only regions in North America that can be called natural centers of subsistence and the natural sources of the migrating tribes of hunters, nomads and warriors.

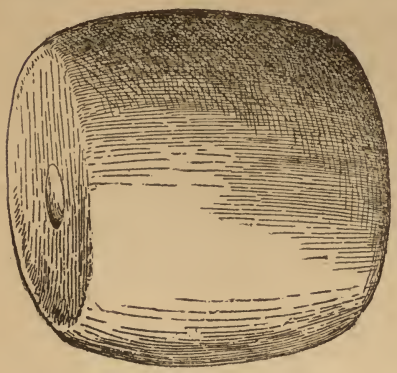


Fig. 10.—Barrel Shaped Disc.

Whether these various stocks of Indians, which are now so well known as coming from the same locality and related to one another in language, originated on the continent, is very uncertain. All that we know about them is, that when they became known to history they seem to have had all grades of culture, all styles of architecture, all modes of life, and all systems of religion, which both differed among themselves and also differed from those which seemed to have existed in the central regions before they reached them. Whether we are to class the Mound-builders among the older races and assign them all to a different stock from the Indians is now the problem. This much we may do—we may assign to them a cultus which was peculiar, and may take the mound-building age as the one in which that cultus prevailed. This we do with the Pueblos, the Cliff-dwellers and with the civilized races who have left their ancient cities in the central provinces, even when we trace their descendants in the native tribes which still survive, and there is no reason why we should not, in the case of the ancient inhabitants of the Mississippi valley. We divide the entire continent into different districts, in which all grades of society are represented, placing the lower condition of savagery among the ice fields of the North, making fish subsistence the chief test; the middle status of savagery, we place in the forest regions about Hudson's Bay and north of the great lakes, making

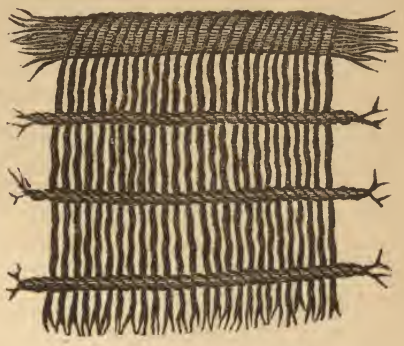


*Fig. 11.—Cloth from a Mound in Ohio.**

*The cuts on this and adjoining pages represent the industrial arts of the Mound-builders.

subsistence upon game the test; the upper status of savagery we assign to the head-waters of the Mississippi and along both sides of the great lakes and as far south as the Ohio River, making subsistence upon game and the occasional use of cereals the test.

This leaves to us all the lower part of the Mississippi valley for the people who were in the lower status of barbarism, and who gained their subsistence partly by hunting and mainly by the cultivation of the maize, whom we call the Mound-builders. The middle status of barbarism, according to Mr. Morgan, was marked by cultivation, by irrigation, use of domestic animals, and was occupied by the village Indians of New Mexico and the ancient Pueblos and Cliff-dwellers. The upper status of barbarism, which in Europe was marked by the manufacture of bronze, in America was, according to Mr. Morgan, occupied by

Fig. 12—Monitor Pipes from Ohio and Iowa.

the Aztecs. Civilization commenced with the use of the alphabet, manufacture of iron, and building with sculptured stone, and was in America occupied by the Toltecs, Nahuas, Mayas, and the ancient inhabitants of Peru. To these may be ascribed the ancient cities of Central America in which pyramids, and palaces, shrines and temples were very common, and idol pillars were the best specimens of art.

The history of social development is also learned from the relics; those from each part of the continent illustrate a different period of advancement. We take up the relics as they come to us from the different parts of the continent, and we read in them a story about the progress of mankind and see striking illustrations of the different periods or stages. Mr. Morgan has given us some hints as to the line of progress and as to the tests. He says: Through the long period of savagery stone and bone implements, cane and splint baskets, skin garments, the village consisting of clustered houses, boatcraft, including bark and dug-out canoes, the spear pointed with flint, and the war-club,

flint implements of the ruder kinds, the organization into gentes, the system of totemism with the consanguine family and the mother right prevalent, monosyllabic language, gesture signs, picture writing, the worship of the elements in the lowest form, fetichism and cannibalism. In the lower period of barbarism the cultivation of maize, beans, squash and tobacco, finger weaving with warp and wool, the moccasin, legging and kilt of tanned deer skin, use of feathers for ornaments, and the pipe, the village

Fig. 13.—Bird Pipe from Stone Grave.

stockade for defense, tribal games, worship of animals and the elements, organization of confederacies, government by a council of chiefs. During the middle period native metals were introduced, such as copper and lead in its native state, native iron or brown hematite, and occasionally the beaten silver and gold, beaten into thin plates, ornamental pottery, polished flint and stone implements, woven fabrics of cotton and other vegetable fiber, the embryo loom, the construction of earth-works in the shape of fortresses, the erection of pyramids, the worship of the

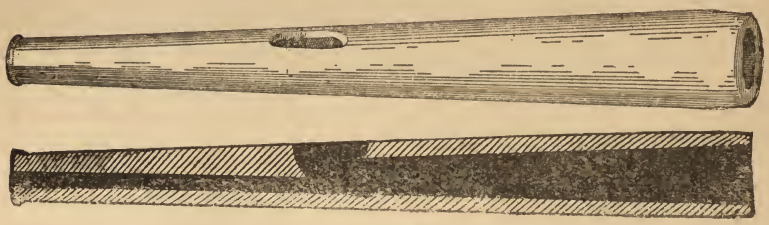


Fig. 14.—Stone Whistles from Tennessee.

sun, introduction of a priesthood, erection of estufas or rotundas for religious worship, separation of the caciques and the governmental houses from those of the common people, the introduction of extensive agriculture in fields rather than in enclosures. The upper period, distinguished by commune houses with walls of adobe, dressed stone laid in courses, cyclopean walls, lake-dwellers constructed on piles, knowledge of native metals, the use of charcoal and crucible, bronze relics in Europe, copper relics in America, ornamented pottery in colors and with symbols, art of weaving advanced to a high state, domestic animals introduced, cultivation by irrigation with reservoirs and irrigating canals, the worship of the sky, with personal and animal gods,

as guardians as parts of the sky, a priesthood distinguished by its costume, government by chiefs who were also priests, the beginning of hierarchy.

Here we would call attention again to the Mound-builders. We have already divided the Mound-builders' territory into several districts and have confined the different classes of Mound-builders to certain limited habitats, but we must remember that the same kind of works found in these districts extend in limited numbers into other districts. Within the districts the relics and the earth-works so correspond that we may decide as to the mode of life, the grade of culture, means of subsistence, social organization and religious system which prevailed; but without the district they are exceptional and can not be regarded as indices of the cultus which prevailed. The presence of these excep-

Fig. 15.—Clay Pipe from Indiana.

tional works and their associated relics in the midst of others has been supposed by some to prove the migrations of the Mound-builders through certain districts before they reached their habitat; but the evidence is unsatisfactory, for the line of migration as thus indicated is but a short one and gives us no hint as to their original home or starting point. There is always an uncertainty in regard to the direction— whether it indicates a line to or from the habitat, while the relics of the different districts are similar.

We give a series of cuts here to illustrate the different character of the relics in the different districts. It will be noticed that the pipes of the Ohio Mound-builders were without any stem; bowl and stem were carved out of one piece. See Fig. 12. The same kind of pipes are found in Illinois and Iowa. The pipes from Indiana, from the stone graves and the southern Mound-builders were designed for stems. Some of them had a small orifice, and were carved into frogs and ducks. Figs. 7-13. These we call calumets, for they remind us of the modern pipes in which the natural head of a bird is used, and which has the stem trimmed with feathers of various kinds. The so-called Cherokee pipe is one which resembles the modern clay pipe, the stem and

bowl being made of one stone, but both are round and trumpet shaped. There are many carved pipes, both at the south and at the north, some of which are made of clay and some of stone, a specimen of which is given in Fig. 19, from Indiana. Mr. C. C. Jones calls these calumets, but they seem to have been used by all of the tribes of modern Indians, as well as by the ancient Mound-builders, and can hardly be regarded as having such a sacred character as a calumet.

The copper implements represented in Plate V are from Wisconsin and Ohio. These show the difference between hunters and agriculturists. The Wisconsin relics are knives, spears, and arrows; the Ohio relics are chisels, awls, needles, a few spades and spears. There are copper relics in Iowa, but they are mainly

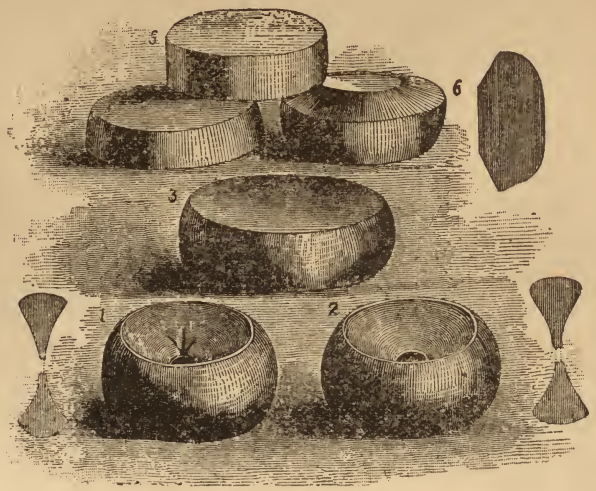


Fig. 16.—Chunky Stones.

axes. In Tennessee copper spools are very numerous. Copper relics in Georgia are wrought into winged figures. We see the cultus of the different classes of Mound-builders in the copper relics.

The chunky stones represented in Fig. 16 are from Ohio. They have been described by Squier and Davis. Such stones are very numerous in Tennessee and in the Gulf States. The chunky stones of Illinois are much smaller and not as deeply dished. They may have been used for a different purpose, and so are not properly called chunky stones.

The maces and badges represented in Plate VI are from Ohio and Tennessee. Maces like these have been found as far south as Florida, as far north as Minnesota, though rarely in the prairie regions. They show the cultus of the Mound-builders of all regions. Illustrations of specimens of pottery of St. Francis River may be seen in Plate VII. In this we have a figure of a

serpent, of a fish, a nondescript animal, of the cross, suastika, concentric circles. All of the specimens are bottles or water carriers. These have been described by Prof. W. B. Potter, and are now in the historical rooms of St. Louis.

Every effort to identify the cultus of any known tribe of Indians with that of a distinct district must be taken as largely made up of conjecture. We do not consider that there is the same uncertainty in reference to the Mound-builders' cultus, for the following reasons: 1. Within their habitat the Mound-builders of each class impressed their entire life upon their works, and they show exactly the grade of advancement they reached, the mode of life they followed, the type of religion they exercised, and the form of government they adopted, at a certain period of time, and we may take the picture which is furnished as a tolerably correct one. 2. The association of the relics with the works is an additional fact. These relics may be made from materials brought from other districts, and so prove an ancient intercourse and an ancient aboriginal trade, but when they are found in the district they show the cultus which prevailed elsewhere. It is worthy of notice, however, that generally the raw material is brought from diverse and distant localities, but when it reaches the district it receives the stamp of the people of that district In this way the flint and the stone and the shell and the copper may be mined in other places and traded or carried, but the arrows, the spears, the pipes, the copper implements and shell ornaments show in their finish and form the very people or district to which they belonged. This enables us to identify them not only as the handiwork of the ancient inhabitants, but also as that of the inhabitants of a particular locality or district.

Illustrations of these points are very numerous. We have only to go over the Mound-builders' territory and recognize the different earth-works distributed there, and then take the relics gathered from each locality and group them properly, remembering the association with the earth-works and their correlation to the scenery, and we have a picture of the cultus of each class of Mound-builders both definite and reliable.

INDEX.

Abbott, Dr. C. C., 2, 3, 61, 290.
Adair, 146.
Adams Co., Ill., Serpent Effigy in, 123.
Adams Co., Ohio, Serpent Effigy in, 122.
Agricultural Tools, 36.
Agricultural Races, 65, 354.
Alabama, Mounds in, 170, 178.
Aleutian Islands, 5.
Alexandersville, O., 86, 138, 264, 265.
Algonquins, 21, 64, 116.
Alleghany River, 115.
Alleghans, Traditions of, 116, 124.
Alligator Mound, Granville, O., 230.
Altar Mounds and Ash Heaps, 309-336.
Altars, 47, 124, 231, 242, 243, 260, 309.
Ameghino, 7.
American Antiquarian, 3, 6, 237.
Anderson, W. H , 72.
Anderson, Ind., 258.
Andrews, E. B., 76.
Animal Effigies, 71, 227, 228.
Animal Worship, 225-231.
Animism and Burial Mounds, 223-226.
Antiquity of Mounds, 31-53, 138.
Appalachian Mountains, 27, 215.
Argyleshire, 84.
Arkansas, Mounds in, 122, 145, 215, 217.
Arrow-heads, 274.
Armstrong, R. B., 72.
Ash-heaps, 205, 309, 325.
Ashland County, O., Forts in, 193.
Ashtabula, O., Mounds at, 192.
Atwater, Caleb, 52, 88, 90, 135, 252.
Athens, O., Mounds at, 76.
Auriferous Gravels, 4.
Avebury, 249.
Aztecs, 76, 108, 188, 232.
Aztlan, Wis., 170, 171.

Babbit, Miss F. E., 2.
Baldwin, C. C., 9.
Banner Stones, 37, 290.
Barber, E. A., 285.
Barton, Prof., 40.
Bartram, 146, 259.
Basques, 2, 109.
Baum Works, 126.
Bavaria, Caves in, 8.
Baxter, J. H., 190.
Beacon Mounds, 189.
Beauchamp, Rev. Wm., 137, 194.
Beehive Tombs, 115, 127, 128.
Beloit, Wis., Mound at, 71.
Berthoud, E. L., 13.
Binkley, S. H., 208, 270.
Big Harpeth, Tenn., 216, 267.
Big Twin Works, 207, 270.
Bird-shaped Amulets, 285, 289.
Blackmore Museum, 284.
Blackwater Group, 238.
Black Hawk, 136.
Bliss, L. O., 289.
Blumer, Rev. A., 12, 46.
Bolivar County, Miss., Pyramids in, 176.
Bourneville, O., Works at, 115, 155, 192, 210.
Bowers, Dr. Stephen, 9, 61.
Boyle on Canadian Relics, 291.
Brackenridge, J. M., 157, 160.
Brinton, Dr. D. G., 102, 121.
British Columbia, Mounds in, 341.
Bronze Age, 33, 300.
Brooding Ornaments, 285.
Brown, Rev. E. D., 10.
Brush Creek, 85, 139.
Buffalo Bones, 50.
Buffalo and Indians, The, 49-55.
Burial Mounds, 59-74, Map.
Burial Rites, 52, 76, 324.
Burmeister, 8.

Cæsar's Forts, 186.
Caches, 103, 326.
Cahokia Mound, 157, 172, 178.
Calaveras Skull, 5, 8.
California Relics, 11, 34, 105.
Cambridge, O., Mounds in, 86.
Canadian Relics, 290.
Cane Mats, 347.
Captives, 255.
Carlisle Fort, 209.
Carr, Lucien, 126.
Cartier, Jacques, 19, 280.
Cass County, Ill., Mounds in, 233, 242.
Catawba Indians, 128, Map.
Cave-dwellers, 8, 10.
Catlin, J. C., 121.
Catlinite Pipes, 30, 329, 330.
Cedar Banks, Works at, 89, 268, 269.
Celts, 77.
Chambered Mounds, 75, 223-226.
Champlain Epoch, 32.
Charlestown, Ind., 86.
Chattahoochie River, Mounds on, 178.
Chattanooga, 179.
Charlevoix, 50.
Chellean Epoch, 32.
Cherokees, 97, 110, 116, 118, 120, 125, 131, 235.
Chinese Portraits, 276.

Chillicothe, Ohio, Works at, 85, 156, 191.
Chisels, 77, 357.
Choctaws, 29, Map.
Chunky Stones, 359.
Chunky Yards, 146.
Cincinnati, Ohio, Works at, 85, 117.
Circles and Mounds, 89, 136, 149, 188, 252, 255.
Circleville, Ohio, Works at, 86, 269.
Circle and Crescent, 211, 239, 269.
Cisco, J. G., 104.
Cists, Stone, 77, 112.
Civilization, 337, 353.
Clan Emblems, 22, 71.
Clans among the Mound-builders, 141, 144, 155. 185.
Clark County, Indiana, 212.
Clarke, Robert.
Clark, Gen. G. R., 165.
Clark's Works, 89 95, 196, 197.
Clay Pipes, 358.
Cleveland, Ohio, 192.
Cliff-dwellers, 34, 36, 144.
Cloth in Mounds, 52, 69, 347, 234, 355.
Coleraine Works, 95, 198.
Collet, Dr. John, 41.
Colorado, 341.
Conant, A. C., 167.
Concentric Circles, 135, 256.
Constructed Circles, 257.
Cook Farm, Mounds on, 233.
Copper Relics—Awls, 67, 234; Axes, 40, 43, 46, 52, 69; Beads, 234, 267; Bell, 333; Chisels, 234; Crescents, 247; Crosses, 266, 332; Disks, 248; Mats, 52; Mines, 35, 349; Plates, 51, 52, 349; Rings, 312 332; Spools, 234, 236, 239, 261, 266.
Coves and Altars, 251.
Covered Ways, 93.
Coxe, E. T., 348.
Crania of Mound-builders, 230, 361.
Crawford County, Wisconsin, 225.
Creek Indians, 131, Map.
Cremation in Mounds, 260.
Cremation Places, 260.
Crescent Earth-works, 228, 256.
Crescent Pavements, 262, 269.
Cultus of the Mound-builders, 133-148.
Cup Marks, 295.
Cuyahoga, 191.

Dakota, Mounds in, 24, 62, 67, 114, 142.
Dakotas, The, 29, 64, 85, 113, 118, 120, 139, 142.
Dall, W. H., 11.
Date of Mound-builders, 31-52.
Davenport Academy, 12, 41, 45, 53, 68.
Davenport Mounds, 43 67.
Davenport Pipes, 41, 233.
Davenport Tablets, 43, 48.
Davis, Dr. J. E., 125.
Dawson, Sir William, 116, 137, 150.
Dayton, Ohio, Works at, 138, 198.
Deans, James, 61.
DeBry, 165.
Defensive Walls, 92.
Defensive Works, 185, 230.
Delawares, 21, 26, 121, 129.
Denmark, Mounds in, 60.
DesMoines River, 122, 136.
DeSoto, 30, 101.
Detroit, Michigan, Mounds in, 74.
Different Races, 52, 65, Map.
Digging Implements, 332, 354.
Dille, J., 225.
Districts, Different, 62, Map
Divisions of Territory, 15, 23, 62, Map.
Domestic Pottery 107, 339, 348.
Dordogne Caves, 14.
Dorsey, Rev. J. O., 121.
Double Mounds, 43.
Douglas, A. E., 38.
Druids, 247, 249, 263, 298, 300.
Duck Pipes, 356.
Dunlap's Works, 89, 140.

Eagles, Copper, 52.
East Tennessee. Works in, 118.
East St. Louis, Works at, 166.
East Dubuque, Works at, 224, 2 6.
Effigy Mounds, 71, 227, 250.
Egypt, Relics in, 1.
Elephant Pipes, 13, 41.
Eleusinian Mysteries, 246.
Elks, 227.
Elyria, Ohio, Caves at, 9.
Enclosures in Ohio, 18, 26, 51-56.
Eries, The, 116.
Eskimos, 5.
Ethnological Bureau, 187.
Etowah Mound, 164, 179.
Etowah, Georgia, Works at, 179.
Europe, Mounds in, 16, 60.
European Faces and Pipes, 275.
Evansville, Indiana, Works at, 170.
Exeter Vase, 142.
Excelsior, Minnesota, Mounds at, 66.

Falling Gardens, 166-167.
Farmersville Fort, 209.
Featherstoneaugh, 163.
Female Heads, 108.
Fire Beds, 38, 115, 237, 302, 312, 313.
Fire Worship, 172, 231-237.
Flat Pipes, 283-284.
Flint, Dr. Earl, 6.
Flint Disks, 316.
Flint Daggers, 104, 353.
Flint Ridge, 35, 57.
Flint Hoes, 354.
Florida, Relics in, 38.
Florida, Works in, 35, Map.
Fontaine, Dr. E., 13, 178.
Forshey, Dr. E., 178.
Fort Ancient, 203, 241.

Fort Hill, 201, 266.
Fort in Clark County, Indiana, 212.
Forts near Nashville, Tennessee.
Forts on Miami River, 196.
Forts on the Scioto River, 210.
Fortified Hill, 206.
Fortified Villages, 148, 194.
Foster, Dr. J. W., 13.
Foxes, The, 237.
Fox River, Mounds on, 23.
French Portrait, 276.
French Classification, 31.
Frog Pipes, 353.

Galena, Illinois, Mounds at, 65.
Game Drives, 138.
Garcilasso de la Vega, 180, 345.
Garden Beds, 35.
Gasconade County, Missouri, 11, 39.
Gateways, 151, 199, 204, 212.
Geographical Divisions, 23, 62, Map.
Geography of Religion, 222.
Geological Period, 33.
Georgia, Mounds in, 35, 180.
Gilman, Henry, 74.
Glacial Periods, 4.
Gold Ornament, 38.
Gorgets, Shell, 128, 264, 305.
Graded Ways, 153, 175.
Grades of Culture, 136, 353–356.
Granville, Ohio, Mounds at, 155, 195, 230.
Grave Creek Mound, 76, 114.
Graves of Indians, 324, 335.
Great Miami River, 189, 196.
Grotesque Portraits, 277.

Habitation Mounds, 214, 264.
Haldeman, S. S., 8.
Halbert, H. S., 259.
Hale, Dr. Horatio, 121.
Hamilton County, Ohio, 197.
Hardinsburg Fort, Ohio, 116.
Harris, Rev. Dr., 91.
Hearths, 209.
Heg, J. G. Col., 72.
Henshaw, H. W., 47, 61.
Hieroglyphics, 44.
High Bank, 87, 149.
Highland County, Ohio, 190.
Hill Forts, 206–211.
Hilgard, E. W., 13.
Hill, H. H., Dr., 295.
Hill Mounds, 188.
Historic and Prehistoric Relics, 273–292.
Hochelaga, 138, 146.
Hocking Creek, 85.
Hoes and Spades, 35, 275, 355.
Hoffman, W. J., 187.
Holden, J. B., 40.
Holmes, Dr., 13.
Holmes, W. H., 187.
Homer, 59.
Hopeton, Ohio, 51, 89, 149, 255, 266.
Horn Handles, 104.
Horse-shoe Symbol, 207, 249, 303.
Hoy, Dr. J. E., 72.
Hubbard, Hon. Bela, 74.
Hudson, Dr., 62.
Human Sacrifice, 298.
Hunter Tribes, 63–64, 225.
Hurons, 279.

Ice Sheet and Paleolithic Man, 5.
Idaho, Relics from, 6, 36.
Illinois, Mounds in, 17, 24, 53, 56–57, 63, 67, 69, 122, 130, 158, 224, 236, 242, 302, 306.
Illinois River, Mounds on, 52, 56–57, 242.
Images, Pottery, 108.
Images, Stone, 100, 105.
Implements of Bone, 326.
Indiana, Mounds in, 24, 41, 63, 86, 212, 235, 257, 261, 264.
Indian and Mound-builder's Relics, 272–292.
Indian Burials, 313.
Indian Hunters, 100.
Indian Migrations, 113–132, 337, Map.
Indian Portraits, 103.
Indian Relics, 272, 275, 280.
Indians and Mound builders, 50–58.
Indian Traditions, 120, 125, 130, 137, 140, 142, 144, 165, 229, 232, 237, 247, 281, 345.
Indian Villages, 55, 135, 141.
Inscribed Tablets, 48.
Intruded Burials, 124.
Iowa, Mounds in, 24, 53, 63, 67, 130, 224, 235–6.
Iowas, 129, Map.
Iroquois, 26, 119, 129, 226, 279, 282.
Iron in Mounds, 318.

Jade, 36.
Johnson, H. L., 108.
Jones, C. C., Hon., 30, 190.
Jones, Dr. Joseph, 216.

Kaskaskia, 101, 165.
Kenawha Valley, 27, 115, 131, 258.
Kentucky, 58, 41.
Keokuk, 136.
Kickapoos, Map.
Kinney, T. W., 250.
Kitchen Middens, 8, 327.
Knife Handles, 318.
Knives, 104.
Koch, Dr., 39.
Kolee Mokee, 183.
Koshkonong, 71.
Kunz, G. F., 38.

Lake-dwellings, 34.
Lake Michigan, 23.

Lake Regions, 16, Map.
Lapham, Dr. J. A., 189.
La Salle, 56
Leaf-shaped Implements, 242.
Lena River, 14.
Leni Lenape, 121.
Lewis, T. H., 10.
Limestone Pipe, 328-330, 332.
Limestone Tablet, 331.
Lockwood, Prof. Samuel, 40.
Lodge Circles, 145, 216.
Lookout Mounds, 187-192.
Louisa County, Iowa, 12.
Louisiana, Pyramids in, 175, 178.
Lower Canada, 278.
Lower Mississippi, 174.
Lund, Prof., 8.
Lyons, Sidney, 58.

Maces, 287.
Macon, Georgia, 182.
Madisonville, Ohio, 324.
Mahadeo, 293.
Malays, 116.
Mallory, Col. G., 187.
Manchester, Tennessee, 220.
Mandan Villages, 216.
Manitou, 165.
Marietta, Ohio, 83, 89, 91, 152.
Marine Shells, 266.
Marquette, 168.
Masks, 228.
Mason, O. T., 211.
Massie's Creek, 211, 241.
Mastodon, 12-13, 32, 39, 41.
Matting, 12.
McAdams, William, 162.
Messier Mound, 182.
Metz, C. L., 324.
Mexican Semblances, 180,
Mexico, 34, 36.
Miami River, 116, 156, 256, 265.
Miamisburg, Ohio, 86, 191.
Mica Crescents, 262, 298.
Mica Mines, 35.
Michigan, Mines in, 350.
Micos Cabin, 145.
Middle District, 114-132.
Middle Tennessee, 104.
Military Works, 25.
Miners' Tools, 350.
Mines, 350.
Mississippi Pottery, 347.
Mississippi, Pyramids in, 172-177.
Mississippi River, 42, 157.
Mississippi Valley, 62.
Missouri, Mastodon in, 39.
Missouri Pottery, 106.
Missouri River, Mounds on, 114.
Mitchell Station, 57.
Moquis, 236.
Moline, Illinois, 52, 69, 233.
Monk's Mound, 166.
Moon Cult, 237-244.
Morgan, L. H., 143, 353.
Moorehead, W. K., 50, 203, 242.
Mormon's Work, 48.
Mortar, 5.
Mound-builders' Age, 15, 31, Cult, 133-148; Forts, 198, 212; Houses, 147; Idols, 267; Images, 108; Implements, 135; Migrations, 113-128; Mines, 350; Pipes, 278, 291, 330, 353-358; Pottery, 102-112, 279, 326, 334, 340, 346; Races, 20, 309-360; Relics, 21, 65, 266, 271-292; Religion, 221-244; Skulls, 225; Tablets, 42-46, 48, 303, 322; Writing, 44.
Mound City, 243, 262, 298, 309.
Mounds in Alabama, 170; Arkansas, 122, 145, 215, 217; Dakota, 24, 42, 62, 67, 114; Florida, 35, 38; Georgia, 28, 55, 77, 179, 180, 183, 352; Illinois, 17, 24, 52-53, 56-57, 63, 67-69, 122-123, 130, 158, 224, 236, 242, 296, 302, 304, 306; Indiana, 24, 41, 49, 63, 86, 212, 235, 257, 261, 264; Iowa, 24, 42, 47, 53, 63, 67, 130, 233-234; Kentucky, 58, 138; Louisiana, 173-174; Michigan, 25, 74; Minnesota, 24, 63, 67; Mississippi, 170, 173, 176-177, 346; Missouri, 25, 39, 75, 164; New York, 25, 194; North Carolina, 27; Ohio, 26, 51, 54, 83-96, 115, 122, 133-138, 153-156, 188-192, 230, 238-240, 249-256, 264-265, 309-336; Tennessee, 28, 97-112, 118, 128, 141, 216, 356; West Virginia 25, 114, 124, 259; Wisconsin, 23, 42, 49, 71, 130, 171, 225.
Mounds, Altar, 47, 124, 231, 242, 260, 297, 309-324.
Mounds, Beacon, 191.
Mounds, Burial, 23, 27, 42, 58, Map.
Mounds, Chambered, 110, 124, 223.
Mounds, Cremation, 299.
Mounds, Conical, 265.
Mounds, Domiciliary, 343.
Mounds, Effigy, 23, 69, 227, 250.
Mounds, Fire, 111, 192, 233.
Mounds, Great, 117, 164, 177, 264, 348.
Mounds, High, 117, 164, 177.
Mounds, Hill, 119, 188.
Mounds, Lookout, 64.
Mounds, Maps of, 17-18, 22, 47, 58, 69, 94, 115, 174, 189, 263.
Mounds, Northern, 341.
Mounds, Observatory, 152.
Mounds, Oblong, 243.
Mounds, Platform, 27, 83, 150.
Mounds, Pyramid, 29, 157-184.
Mounds, Sacrificial, 93, 256.
Mounds, Serpent, 122, 296.
Mounds, Signal, 189.
Mounds, Stratified, 53, 56, 225, 235, 244, 313.
Mounds, Symbolic, 252, 269.
Mounds, Terraced, 166, 173, 239.
Mounds, Truncated, 265
Muscatine Slough, 17, 68, 233.
Muscogees, 100, Map.
Muskingum, 85. 115, 256.

Name, Mound-builder, 16.
Naming Periods, 33.
Nampa Image, 6.
Nashville, Tenn., 101-105, 122.
Natchez, 29, 100, 118.
Nature Worship, 221-233.
Neanderthal Skull, 5.
Neolithic Age, 31.
Neolithic Caves, 7-9.
Newark, O. 86, 152, 263.
Newburg, O., 193.
Newburg Mastodon, 39.
New Madrid, 106.
New York Pipes, 277, 283.
Nicaragua Footprints, 6.
North Carolina, Mounds in, 27, 115, 128.
Northern Georgia, 28, 129.
Number of Mounds, 20.

Oakland, California, 61.
Observatory Mound, 163.
Obsidian, 33, 261.
Ocmulgee River, 173-182.
Ohio, Defences in, 198-204.
Ohio, Mounds in, 84, 92, 119, 122, 126, 137, 138, 152, 188, 192, 206, 288.
Ohio, Relics in, 34, 233, 242, 261, 268, 278, 282, 291, 315-321.
Ohio River, Mounds in, 113-120.
Ohio Villages, 150-156.
Oregon Relics, 105.
Osages, 228, Map.
Otter Pipe, 356.

Packard, A. S., 293.
Painesville, O., 74.
Paint Creek, O., 85, 87, 115, 197, 256, 298.
Paleolithic Age, 31, 32.
Paleolithic Relics, 8, 12.
Panther Pipe, 110.
Parallel Walls, 151.
Patrick, Dr. J. R., 162.
Paved Altars, 315.
Pavements, 204, 209, 262, 257.
Pearls, 318, 322.
Peru, 338.
Pestles, 5.
Phallic Worship, 300.
Phene, Dr. J. W., 190.
Piassa, 165.
Pigmies, 97.
Piketon, 154.
Pipe Stone Quarry, 35.
Platform Mounds, 263.
Pomeiock, 145.
Portrait Pipes, 283.
Portraits, 106.
Portsmouth, O., 88, 85, 94, 248, 255.
Pottery, 102-112, 279.
Pottery Heads, 109.
Pottery in Ash Pits, 325.
Pottery in Vessels, 326, 339, 344, 346.
Powell, Maj. J. W., 5.
Prairie du Chien, 73
Prairie, Jefferson, 174.
Prairie Mounds, 63, Map.
Proto-historic, 271, 281.
Proudfit, Dr. J. V., 190.
Pueblos, 106, 354.
Pulleys, 354.
Putnam, Prof. F. W., 165, 235
Pyramid Builders, 114, 132, 157-184, 307.
Pyramid Mounds, 157-184, Map.

Quincy, Ill., 67, 123, 296, 304.

Races Among Mound-builders, 20.
Racine, Wis., 73.
Rau, Dr. Charles, 9.
Reed, M. C., 10.
Red River, 63.
Red Wing, Minn., 67.
Religious Works, 221-237.
Relics, 21, 266, 271-292.
River, Rouge, 74.
Rock Island, 67.
Rotundas, 145, 161, 255.

Sacred Enclosures, 81-96, 252, Map.
Sacrificial Mounds, 93, 314.
Sacs and Foxes, 237.
Saddle-shaped Stone, 286.
Salamander Vessel, 326.
Salt Springs, 348.
Sand Stone Pipe, 328.
Savannah, Tenn., 170, 343.
Seal Township, 89, 239.
Scepters, 105.
Schoolcraft, H. R., 119.
Scioto River, 87, 115, 119.
Scioto Valley, Map of, 18.
Scrolls and Spear-heads, 322.
Sea Shells, 75.
Seltzer, Township, Miss., 177.
Serpent Effigy, 296.
Serpent Mounds, 122, 123.
Serpent Pipe, 302, 322.
Serpent Symbol, 265, 304, 322.
Serpent Worship, 95.
Shaler, Prof. E. M., 41.
Shawnees, 100, 119, Map.
Shell Beads, 33, 235, 243.
Shelled Corn, 325.
Shell Gorgets, 128, 132, 305.
Shell Heaps, 10, 38, 67.
Shell Ornaments, 301.
Shelter Cave, 9.
Short, Prof. J. T., 171.
Shoulder Bone Creek, 180.
Sickles, 36.
Signal System, 188.

Silver in Mounds, 36, 56, 319.
Silver Ornaments, 38.
Silvery Mica, 127, 244, 262, 314.
Snakes, 297.
Snyder, Dr., 242.
Solar Cult, 245–247.
South Carolina, 131.
Southern Indians, 145, 345.
Spool Ornaments, 266.
Squier & Davis, 87, 88, 125, 131, 235.
St. Acheul, 2.
Standing Stone, 59.
St. Louis, 157.
Stockades, 193-195.
Stockade Villages, 38, 142, 192.
Stone Forts, 141, 147, 211, 342
Stone Grave People, 97-112.
Stone Mounds, 212, 214, 312.
Stone Vaults, 76.
Sugar Loaf, 160.
Sun Circles, 251–259.
Sun Symbols, 252, 260.
Sun Worship, 85, 125, 164, 251, 259, 267.
Swamp Villages, 145.
Swastika, 51, 54, 301.
Swords of Stone, 105
Symbolism in Mounds, 293–308.
Symbolism, 82, 293.

Tablets, 42–46, 48, 303, 322.
Tennessee. Mounds in, 97, 102, 112, 128, 141, 170, 267, 301, 342.
Terraced Mounds, 74, 146, 158, 166, 170, 252.
Terraces, Mounds on, 19, 53.
Thomas, Dr. Cyrus, 73, 116.
Thruston, Gen. G. P., 99, 190, 267, 296.
Toad Pipe, 321.
Toolsboro, 234.
Toltec Gates, 147.
Toronto Relics, 291.
Totems, 22, 72, 225, 227, 229, 230, 250.
Traditions of Indians, 120, 130, 137, 142, 144, 165, 168, 229, 237, 281.
Trumpet Pipe, 281.
Tube Pipes, 282.
Tur er Group, 318.
Turtle Pipe, 284.

Upper Mississippi, 63.
Urns, 65.
Utes.

Vases, 107, 324, 326, 334, 340.
Vaults, 76, 126.
Villages of Indians, 136, 145, 187, 194, 215.
Villages of Mound-builders, 126, 156, 173–194.
Vincennes, Ind., 117, 190, 264.

Wateree River, Mounds on, see Map.
Workshops, 35.
Worthington, O., Works at, 265.
Woven Cloth, 319.
Wyalusing, 42.
Wyandottes, 26, 129.

Yucatan, 16.

Zuni Indians, 271.

ERRATA.

Page 4, line 44, for figure 3 read figure 4.
Page 8, line 5, for Contemporanity read Contemporaneity.
Page 11, line 39, for Brinton read Benton.
Page 37, line 32, for Stoue read Stone.
Page 38, lines 20 and 40, for Silver read Gold.
Page 44, line 1, for Pipes read Axes.
Page 60, line 6, for Orkey read Orkney.
Page 81, line 2, for Serprent read Serpent.
Page 91, line 18, for It read Them.
Page 168, line 10, for Sprerd read Spread.
Page 172, line 14, for Serpeut read Serpent.
Page 211, line 12, for No. read Fig.
Page 229, line 4, for Pleides read Plerades.
Page 293, line 16, for Pakacrd read Packard.
Page 294, line 20, for Mahedeo read Mahadeo.
Page 298, line 23, for Mahedeo read Mahadeo.
Page 352, line 27, for Pattnrns read Patterns.
Page 359, line 4, for nineteen read fifteen.

APPENDIX.

PALEOLITHICS AND DOUBTFUL FINDS.

The finds of paleolithic relics in the gravel beds in Delaware, Ohio and Minnesota we have spoken of (see Chap. I, p. 3) as in accord with those common in Europe, though they do not carry the age of man, by any means, as far back, for they are all post-glacial. The Calaveras skull, the Nampa image, we have always questioned as being inconsistent with the science. We are gratified to know that other gentlemen, among them several connected with the government surveys, have candidly advanced other corrections. The paleolithics of Delaware were from the talus and not from the undisturbed gravel. Those in Minnesota were still more recent. The Nampa Image was a clay toy made by the Pocatello Indians. The Calaveras skull and steatite vessels were left in an old shaft by aborigines who were miners, before the time of Columbus. We are thankful to Prof. Wright for having given us the information, but still more thankful to the Washington parties for making these corrections. We would, however, respectfully ask both parties whether this involves an abandonment of the paleolithic age. That age in Europe is made up of three different epochs, the last epoch post-glacial. Why not, then, class the paleolithc with the post-glacial and acknowledge it as introductory to the neolithic in both countries. Mr. W. H. Holmes maintains that the paleolithic relics were aboriginal failures and quite modern, but the finding of so many of them in the gravels would indicate that they belonged to an age preceding that of the Mound-builders, and so we retain the term paleolithic age.

RACES AMONG THE MOUND-BUILDERS.

The latest book on the subject is one by Mr. Warren K. Moorehead. He prepared this book in the field, he says, using some of the material which he had gathered from the mounds in Southern Ohio for a basis, but embodying chapters written by W. K. Davis, Mr. Gerard Fowke and Dr. H. T. Cresson; the purpose of which is "to do away with certain illusions" in reference to the high grade of civilization of the Mound-builders. He claims that books written by certain "field-writers" have a value far in excess of previous publications. The impression made by the book is so different from that made by other explorers, some of whom were in the field early and some of them quite recently, that we have concluded to cite the opinions of others; mainly gentlemen of mature judgment and established reputation.

Mr. Moorehead draws the same conclusion that his chief, Prof. Putnam, had reached about the "two races," but he goes much further, and claims that neither race was raised above the upper condition of "savagery," and the title of "primitive man" applies to both. The "long heads" waged battle with the "short heads" for many years, keeping up "towns" as head-

quarters to which they might return. A few villages of the "long heads" have been found in the Miami and Scioto Valleys. He thinks that no "short heads" entered their territory in Clinton and Clermont Counties, though Fort Ancient is not very far from either county, where there are many stone graves, which he ascribes to the "short headed" race. The greatest village site was just below the walls of Fort Ancient and occupied the broad bottoms of the Little Miami. In one place he found three village sites, one above the other. The lower burial site presented a singular appearance. Sixteen graves were opened in the presence of 1100 people. The two villages were in existence before the advent of the French traders. Upon Cæsar's Creek was found a village occupying sixty or seventy acres of ground. Three hundred graves have been opened near the South Fort, at Fort Ancient. In Oregonia, in Warren County, he opened a large cemetery in a village site, of more recent date than those at Fort Ancient, but the condition of the graves, together with the size of the trees towering above them, confirmed the assertion of the age of the burials. They were probably the people who erected the walls of Fort Ancient. The most remarkable find was in a Hopewell mound. Here there were two races, the "long head" and "short head," though he fails to state which was the earlier.

Prof Putnam speaks of the serpent mound in Adams county, Ohio. He says everything connected with it points to great antiquity. The signs of late occupation have nothing remarkable, simple ash beds, where the dwelling stood, no elaborate structures and no special ceremonies. A single person buried with great ceremony in connection with fire. A village site and burial place occupy the same area. Of the two periods our explorations show the serpent mound was built by the first. Prof. Putnam used the word "Indian" when he described the bodies found in the upper burials, and the term "Mound-builders" when speaking of the ancient burials.

SKULLS OF THE MOUND-BUILDERS.

The thought gives rise to the question, what were the characteristics of the Mound-builder's skull? Nadaillac says that we are able to establish certain "general characteristics of the Mound-builders; such as the small height and capacity of the skull, the obliquity of the zygomatic arch, the flattening of the tibia and the perforation of the humerus. These characteristics are met with in most skeletons of the so-called Mound-builders, and they may help us to distinguish their bones from those of more modern Indians." These are peculiarities recognized only in the northern mounds, especially those of Michigan and Wisconsin and Ohio. They are characteristic of the hunter class. They show that these northern Mound-builders were more like the modern hunter Indians than were the southern Mound-builders. Mr. Henry T. Gilman endeavored to show that flattening the shin bone, perforation of the humerus, were signs of a very low order of a man. They were Simian traits. But Sir William Dawson has shown that the common Indian skull is equally low in its grade, the facial angle being scarcely any higher than that found in the Neanderthal skull. These facts show that craniology is very unreliable in the matter of determining the actual mental capacity of the races. For certainly the Indians are regarded

as much superior to the Neanderthal man or any of the trog odytes of Europe. All of these northern skulls differ, however, from the Scioto skull, which Squier and Davis advanced as representing the Mound-builders. This skull was discovered under a mound near Chillicothe, and was remarkable for its vertical and transverse development and for the truncated or flattened form of the hinder portion. It was long looked upon as the most complete type of the mound-crania. According to Dr. Wilson, the forehead was wide and lofty, but the flattening of the occiput was artificial. This type of a skull has been found not only in Ohio, but in Illinois, Wisconsin and Tennessee. Gen. Gates P. Thruston has described the skulls of the stone grave people. He says a greater number has been taken from stone graves than from any other section. The typical short skull with flattened occiput is very common, though by no means characteristic of the entire series found in the stone graves. He says that this is also a marked characteristic of the skulls found among the remains of the Cliff-dwellers. "The Mound-builders, the stone grave builders and the ancient people of the southwest were evidently closely related, or were originally of the same general stock." Mr. C. C. Jones, Jr., has figured two skulls, one that of a modern Indian buried near the surface, accompanied with venetian beads and copper hawk bells, the other the cranium of a primitive Mound-builder, which came from the bottom of a mound and was vastly older; it had been artificially distorted, the front portion had been flattened. The flattening of the forehead was characteristic of the Aztec as well as of the southern Indians. Dr. J. Q Farquharson has also described the skulls taken from the mounds near Davenport, and has given a table of measurements. His diagrams show the boat shape, though many perforated skulls were found here as well as at Detroit.

Here, then, we have many specific types of skulls; the long skull, the short skull, the straight skull, the boat-shaped skull, the perforated skull, the skull flattened behind and the skull flattened before. To these might be added the skulls which have been described by Mr. William P. Clark as occasionally found in Wisconsin, and by Prof. M. C. Read as found in Tennessee. These skulls differ from all the others in that the shape is much rounder, the bones thicker, the jaws much more projecting, and the parts indicate a much lower order of being. Some have conjectured that "these belonged to a very ancient race, possibly the descendants of the old paleolithic race," the fragments of which were afterwards scattered through various parts of the Mound-builders' territory.

Now, what is the lesson which we learn from the study of the skulls taken from the mounds in so many different localities? We have thrown out the conjecture that there were several different tribes or stocks of Mound-builders, those at the south akin to the people of the southwest; those at the north akin to the wild tribes which are supposed to have come from the northwest, and those in the middle district, having a diversity of origin; but that the ancient Mound-builders belonged to a different race from the hunter Indians.

This conjecture seems to be confirmed by the description of skulls which have been thus far brought out. Still we remember that Dr D. G. Brinton has recently advanced the theory which Dr. S. G. Morton formerly did namely, that there was but one race and that should be called the American

PEESE LIBRARY OF THE UNIVERSITY

Race, and that this opinion has been reached by the study of languages, as Dr. Morton's was from the study of the skulls. This theory we do not undertake to reconcile with our own conjecture of a diversity of races, but would only say that in the present stage of science we consider it unwise to base any conclusion upon the examination of the crania.

The long-headed skull is oval, a narrow bulging occiput, the forehead high and narrow, with marked superciliary ridges. The short head has a flattened occiput, the frontal bones retract, the face is short, the superciliary ridges are heavy, brows are straight, orbits open and square, jaws are prognathic. In the cemetery at Madisonville, Ohio, 1,200 out of 1,400 were brachycephalic. E. G. Squiers describes the typical Mound-builder's skull as having two distinctive peculiarities. One of these is what is called the "Inca" bone; the second is, they are so short and high, or "orthocephalic."

It was long ago found out that in the short heads of the Peruvians a suture across the upper portion of the occiput left a triangular bone between the parietals, to which the name "Inca" is given. A large number of skulls in the Peabody Museum show that this is common in the "short skulls" of Ohio and Peru.

THE QUARRIES OF FLINT RIDGE.

Mr. Gerard Fowke speaks of the extensive quarries on Flint Ridge. The entire deposit is eight miles long and five miles wide. "Such an examination as could be made in a day's visit, would impress the observer that he was viewing the scene of operations, by comparison of which the construction of Ohio's most extensive earth works would be mere holiday sport. Thousands of cubic yards have been removed; acre after acre have been thoroughly excavated. Hundreds of wagon loads of spalls cover the ground; the stone is extremely hard; persons may have to work an entire day with the best steel drills to make a hole large enough for a blast. A vast amount of toil was involved in these excavations." The method of working these quarries is described. They were worked by fire and by cold water. The water shattered and cracked the flint; large boulders of quartz or granite, weighing from twenty to one hundred and fifty pounds, have been found in the bottom of the pits, which were used as hammers to break off the limestone. Small hammers were used to block out the flint pieces. Many of these finishing shops are located near the quarries. Deposits of these leaf-shaped blocks were afterward made, these deposits were covered with soil so that the flint might be kept from hardening and be more easily worked. The deposit in the mound at Clark's Fort contained 7,500 specimens; these with the 600 Squier and Davis took out, would make over 8,000 specimens.

There are various other flint quarries in the State—in Coshocton County and Perry County and elsewhere. In fact there is scarcely a county along the line of this geological formation from Western Pennsylvania to Central Kentucky where these flint quarries do not occur. The quarry at Flint Ridge covered thirty square miles and was five feet thick. The people using the flint extended through New York, West Virginia, Kentucky, Iowa, Wisconsin and all the northern part of the Mississippi Valley.

RETURN CIRCULATION DEPARTMENT
TO ⟶ 202 Main Library
642-3403

LOAN PERIOD 1 | 2 | 3
4 | 5 | 6

LIBRARY USE

This book is due before closing time on the last date stamped below

DUE AS STAMPED BELOW

LIBRARY USE JAN 14 1978

REC. CIR. JAN 14 '78

FORM NO. DD6A, 8m, 4'77
UNIVERSITY OF CALIFORNIA, BERKELEY
BERKELEY, CA 94720

YC 27755

E73
.P3

54502